PUBLIC WORKS APPROPRIATIONS FOR 1958

HEARINGS

BEFORE THE

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH CONGRESS

FIRST SESSION

SUBCOMMITTEE ON PUBLIC WORKS APPROPRIATIONS

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PART 2

CEMETERIAL EXPENSES, DEPARTMENT OF THE ARMY
GREAT LAKES-ST. LAWRENCE RIVER BASIN
GULF AND SOUTH ATLANTIC AREA
MIDDLE ATLANTIC DRAINAGE AREA
NEW ENGLAND DRAINAGE AREA
OHIO VALLEY
TENNESSEE VALLEY BASIN
REMAINING MISCELLANEOUS ITEMS
BONNEVILLE POWER ADMINISTRATION
SOUTHEASTERN POWER ADMINISTRATION
SOUTHWESTERN POWER ADMINISTRATION

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DEPOSITED BY THE
UNITED STATES OF AMERICA

PUBLIC WORKS APPROPRIATIONS FOR 1958

MONDAY, APRIL 29, 1957.

WITNESSES

CORPS OF ENGINEERS, DEPARTMENT OF THE ARMY

BRIG. GEN. J. L. PERSON, ASSISTANT CHIEF OF ENGINEERS FOR CIVIL WORKS
BRIG. GEN. P. D. BERRIGAN, DIVISION ENGINEER, NORTH CENTRAL DIVISION
BRIG. GEN. H. J. HOEFFER, SOUTH ATLANTIC DIVISION
COL. R. E. SMYSER, JR., OHIO RIVER DIVISION
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HARRY COHEN, ASSISTANT CHIEF, PROGRAMS BRANCH, CIVIL WORKS
W. F. RESTALL, ASSISTANT CHIEF SUPERVISORY ENGINEER, NEW ENGLAND DIVISION

GREAT LAKES-SAINT LAWRENCE RIVER BASIN

Mr. KIRWAN. The committee will come to order.

The next area for the consideration of the committee is the Great Lakes-Saint Lawrence River Basin.

GENERAL INVESTIGATIONS

There is a request for $470,000 for general investigations on 14 projects.

Insert pages 3, 4, and 5 of the justifications.

(The pages referred to follow:)

1. Examinations and surveys

(*a*) *Navigation studies.*—The amount of $77,400 is requested for prosecution of 4 studies during fiscal year 1958. This amount will permit completion of 2 reports and progress on 2 others. The tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Michigan: South shore of Lake Huron	$131,000	$102,400	$13,500	$15,100
Minnesota: Duluth-Superior harbor, Minnesota and Wisconsin	132,700	78,600	30,000	24,100
Ohio: Conneaut harbor—breakwater modification	61,200	36,500	24,700	0
Wisconsin: Sturgeon Bay-Lake Michigan Canal	11,400	2,200	9,200	0
Total	336,300	219,700	77,400	39,200

(*b*) *Flood-control studies.*—The amount of $174,200 is requested for prosecution of 8 studies during fiscal year 1958. This amount will permit completion of 3 reports and progress on 5 others. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Indiana: Maumee River, Ind. and Ohio	$433,700	$279,600	$50,000	$104,100
Michigan:				
Augres River	40,600	36,000	4,600	0
Grand River	204,900	42,400	30,000	132,500
Kawkawlin River	41,600	10,100	20,000	11,500
River Rouge	64,900	14,900	25,000	25,000
Sturgeon River	50,000	5,000	20,000	25,000
New York: Cayuga Inlet, Ithaca, N. Y	26,000	6,500	19,500	0
Ohio: Sandusky River	37,000	30,900	6,100	0
Total	898,700	425,400	175,200	298,100

(*c*) *Beach erosion cooperative studies.*—The amount of $7,500 is requested for completion of 1 study during fiscal year 1958.

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
New York: Evangola State Park	$7,500	0	$7,500	0
Total	7,500	0	7,500	0

(*d*) *Special studies.*—The amount of $210,000 is requested for continuation of the Great Lakes harbors study during fiscal year 1958.

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Great Lakes harbors	$835,000	$160,000	$210,000	$465,000
Total	835,000	160,000	210,000	465,000
Grand total	2,077,500	805,100	470,100	802,300

GREAT LAKES HARBORS

Mr. KIRWAN. Almost half of the total amount requested, or $210,000, is for 1 project, "Great Lakes harbors."

When is it planned to finish this study, General?

General BERRIGAN. Well, we plan to have interim reports starting this fall. This report ties in with the connecting channels deepening and with the Saint Lawrence deepening. When the connecting channels were authorized for deepening by Congress, we justified it on

the Great Lakes traffic and we included some cost in there for deepening certain of the bulk harbors and justified the project entirely upon commerce on the lakes. The first studies will be on the bulk harbors—the ore- and coal-carrying harbors—of the Great Lakes. We would like to complete reports on these harbors and then, if authorization is granted, we can start work, so that when the connecting channels are completed, we will have harbors as deep as the connecting channels.

Mr. KIRWAN. The study which has been made so far of the Great Lakes traffic was mostly about the heavy cargoes such as coal and ore; was it not?

General BERRIGAN. Yes, sir. We are also starting a study, which will be very far-reaching, of the dry-cargo commerce that will come into the Great Lakes from overseas, and that will take probably until the end of next year to complete that study.

We are working with the Bureau of the Census on present cargo movements, origins, and destinations. We are also making a rate study to determine what the rates will be and which way cargo will go.

We are also working with the Department of Agriculture on a grain study, and we have three groups within our own office, one of which is studying coal, one studying iron ore, and a third group studying stone.

Mr. KIRWAN. The study which you are making on grain is a good study.

General BERRIGAN. Yes, sir. The Department of Agriculture is very interested in the study. They are helping us finance that.

Mr. KIRWAN. There will probably be hundreds of millions of bushels of grain coming down there, and going on to Buffalo?

General BERRIGAN. Yes, sir.

Mr. KIRWAN. There is no doubt but what it is a good study.

There was a pier built at Ashtabula a couple of years ago by a private concern which invested, I think, $6 million in the pier. There was nothing in the budget 2 years ago for dredging of the outer harbor in to that pier. Those people put their own money into the pier. As I say, the United States Government had done nothing there, although it was authorized.

So this committee saw fit to put into the bill, year before last, money to dredge the outer harbor in to that pier.

I want to report to the Army Engineers that I met one of the men who carried out this project—in fact, the fellow who built the pier—last Saturday, and he told me that there were 54 huge vessels which came in to that pier last year, showing what a tremendous success it was. It is my understanding that there have been more vessels coming in to that pier this year, going to the large titanium plant which is the largest titanium plant in the world, and which is located at that harbor.

If this committee had not put that money in the bill and had waited for the Bureau of the Budget, this work could not have been accomplished.

ST. LAWRENCE SEAWAY

I note that the St. Lawrence seaway is scheduled to be opened about July 1, 1958. Should not this study be speeded up to tie into that as nearly as possible, or are you doing that?

General BERRIGAN. We are going on this study as fast as we can. All of our district people and all of our planning people are now working on it. Actually, the seaway for this deep draft will not open until the spring of 1959. This opening in the summer of 1958 is for the 14-foot draft.

Mr. KIRWAN. 1959 will be the opening date of the seaway proper?

General BERRIGAN. Of course, one of the things is that we do have harbors on the Great Lakes that are about 21 to 26 feet presently, and they will have a good deal of the capacity of the seaway. In other words, the seaway now is only 14 feet, and is going to, say, 25.5 for safe draft. We can take care of drafts from 21 to 23 feet, even with the present harbors.

ADVANCE ENGINEERING AND DESIGN

Mr. KIRWAN. There are no advance engineering and design projects for this basin?

General BERRIGAN. No, sir.

GENERAL INVESTIGATIONS

Mr. KIRWAN. Mr. Boland, do you have any questions?

We are on "General investigations," where 14 projects are involved at a total cost of $470,100.

Mr. BOLAND. Regarding the rivers that I see listed here—in Indiana, Michigan, and Ohio—are the investigations on these rivers for the purpose of determining if they should be deepened for navigaton?

General BERRIGAN. No, sir. Most of these are for flood control. The projects on the Maumee, Sturgeon, Grand, and Sandusky Rivers are all flood control. They have small-boat harbors in Michigan, and we have a study of Duluth-Superior that is going on, and one at Conneaut that includes a model study.

Mr. BOLAND. What is the $7,500 for the Evangola Park in New York?

General BERRIGAN. That is a breach-erosion project.

Mr. BOLAND. Where is that located?

General BERRIGAN. It is on Lake Erie.

Mr. BOLAND. That is all, Mr. Chairman.

Mr. KIRWAN. Mr. Taber, do you have any questions on these 14 general-investigations projects?

ULTIMATE COST AND NATURE OF PROJECTS IN 1958 PROGRAM

Mr. TABER. There is not anything in the justifications that indicates what the ultimate cost of each of these projects is apt to be. I am wondering what you can tell me about that.

General BERRIGAN. The construction cost?

Mr. TABER. Yes. Let us run right down through them.

General BERRIGAN. I do not think I could progress far enough to give you any reasonable estimate of the ultimate cost.

Mr. TABER. You cannot?

General BERRIGAN. No, sir.

Mr. TABER. You could not give us any idea what these things are going to cost?

General BERRIGAN. Not at this time; no, sir.

Mr. TABER. Are these projects authorized?

General BERRIGAN. Just for studies.

Mr. TABER. They are authorized just for the studies?

General BERRIGAN. Yes, sir.

Mr. TABER. How much is the overall figure?

General BERRIGAN. For the cost of all these studies it is $2,077,500. That is the estimated cost of all these studies; 40 percent is involved in this overall study of all the harbors on the Great Lakes in connection with the deepening of the connecting channels and the St. Lawrence.

Mr. TABER. These are preliminary studies or preliminary to authorization for construction?

General BERRIGAN. Yes, sir; they are preliminary to an authorization bill. They, of course, go through the normal process of the Chief, the Board of Engineers, and to the Public Works Committees before they would become authorized.

Mr. TABER. The big items include the Grand River, Mich., project? That is a large item; is it not?

General BERRIGAN. That is about 10 percent of the cost of these studies. That includes such places as Grand Rapids. It is a pretty large basin in central Michigan, flowing into Lake Michigan.

Mr. TABER. Does this involve a navigation job, or is it a flood-control project?

General BERRIGAN. It is a flood-control project.

Mr. TABER. That is all, Mr. Chairman.

Mr. KIRWAN. Mr. Jensen, do you have any questions?

Mr. JENSEN. What is the nature of these projects, in a few words?

General BERRIGAN. The biggest part of the money is going—that is, about 40 percent—into this overall study of Great Lakes harbors to deepen the harbors to fit in with the deepening of the connecting channels and to fit in with the St. Lawrence seaway. The other smaller amounts are going to flood-control projects, particularly on the Grand River, which includes Grands Rapids and on the Maumee River, which includes Fort Wayne.

There are several studies of harbors like Conneaut and Duluth-Superior that involve model studies to improve the breakwaters for the big ships that come into those harbors and at which they are having difficulties at the present time.

Then, there is one study of small-boat harbors on the south shore of Lake Huron.

Mr. JENSEN. Of course, your small-boat harbors cost very little in comparison with your large ship harbors. These ships are being built bigger and heavier and deeper all the time, are they not?

General BERRIGAN. They are being built as deep as we dig the channels. In other words, they build the ships to fit the channels. That has been the experience on the Great Lakes.

Mr. JENSEN. There seems to be no end to the size of the ships they are building, and hence the depth of the channel that is necessary to accommodate those heavy ships. It is a costly program. These 14 projects could, without doubt, run into as much as $1 billion before they are completed and maybe more, as I envision it, and the users of those channels or those ports pay just about exactly nothing for the use of the ports; is that right?

General BERRIGAN. Yes, sir; they are not charged anything for the use of general navigation.

Mr. JENSEN. I never could understand that. The people who use the public roads and highways have to keep up the rights-of-way through the payment of a heavy tax and through the payment of heavy licenses on every kind of traffic, but that is not true with reference to water traffic. There is an enormous amount in taxes and licenses for roadways but the water traffic goes scot free and every year they are asking us to appropriate more money. Of course, that is not your job to set that policy. However, I cannot help but feel that the time is coming when they are going to have to pay part of this improvement program.

Mr. BOLAND. Will the gentleman yield?

Mr. JENSEN. Yes.

Mr. BOLAND. I think there is a lot to what you say, but it would seem to me that there is a lot more justification for spending money in this area for water transportation than there is, for instance, in the Arkansas Basin which will cost over $1 billion. Here is already one of the greatest natural waterways in the world.

Mr. JENSEN. Yes, I agree with that.

Mr. BOLAND. And it takes care of a much larger area.

Mr. JENSEN. You have not yet arrived at the point where you could give us any idea at all as to how much the ultimate cost is going to be of these projects? I believe you testified to that when Mr. Taber interrogated you; did you not?

General BERRIGAN. Yes, sir.

Mr. JENSEN. That is the situation; is it not?

CONNECTING CHANNELS AND GREAT LAKES HARBORS

General BERRIGAN. That is right. On the harbors we justified the connecting channels and included in that justification $35 million as the cost for the deepening of the harbors. In other words, there is no point in deepening the connecting channels if the ships cannot get into the harbors and you have to make a certain amount of study as to where these bulk commodities will move, and we included $35 million as a minimum cost, you might say, of the deepening of the harbors along the Detroit, St. Mary's, and St. Clair Rivers.

Mr. TABER. Could you give us a breakdown of that?

General BERRIGAN. I could furnish that for the record, sir. I think it is in the connecting channels report; is it not?

Colonel NAUMAN. There are some items in that report.

(The information requested follows:)

The connecting channels survey report economic analysis included an estimate of $32,500,000 at 1954 price levels, for improvements to those harbors which were determined to be required for iron ore, stone, and grain traffic, to take full advantage of the increased connecting channels depth. To arrive at this estimate, consideration was given to improvements required at the following harbors: Two Harbors, Minn.; Duluth-Superior Harbor, Minn. and Wis.; Presque Isle Harbor, Mich.; Calumet Harbor, Ill.; Indiana Harbor, Ind.; Lorain Harbor, Ohio; Cleveland Harbor, Ohio; Ashtabula Harbor, Ohio; Conneaut Harbor, Ohio; Erie Harbor, Pa.; Buffalo Harbor, N. Y.; Fairport Harbor, Ohio; Toledo Harbor, Ohio; and Huron Harbor, Ohio.

Mr. TABER. How deep are you planning to make these harbors?

General BERRIGAN. Twenty-seven feet in general for the inner portion of the harbors. Sometimes in going through the breakwaters

where you have wave action or where you have rock cuts, we make it a foot or two deeper but, generally, it is based upon 25.5 feet safe draft for the ships, and 27 feet for the channel in the interior of the harbor.

Mr. JENSEN. In some of the harbors they are asking for a 40-foot depth; are they not?

General BERRIGAN. No, sir; we have not had anyone request anything more than 27 feet. There would be no use to give them 40 feet.

Mr. TABER. There are some harbors which have a depth greater than that, are there not?

Mr. JENSEN. That involves the oceangoing vessels. Your Great Lakes vessels are not that large, but your oceangoing vessels are, and there are harbors that must be 40 feet deep.

General BERRIGAN. The oceangoing vessels which will come up the St. Lawrence seaway in 1959 will be limited by the depth of the seaway, which is essentially 27 feet. So, there would be no traffic on the Great Lakes with depths greater than 27 feet, or thereabouts.

Mr. TABER. On the St. Lawrence seaway you say the depth is going to be just 27 feet?

General BERRIGAN. Yes, sir.

Mr. TABER. What is the depth of the Welland Canal?

General BERRIGAN. The Welland Canal locks are 30 feet. They are now deepening the channel itself between the locks from 25 feet to about 27 feet.

CONNEAUT HARBOR

Mr. KIRWAN. I am going to ask you one further question before we leave the general investigations, because I see a harbor here which is located in an area which I used to represent, and that is Conneaut Harbor.

What is the amount for that project? Is it $60,000?

General BERRIGAN. $61,200 is the estimated cost.

Mr. KIRWAN. What are you going to do there?

General BERRIGAN. We are going to start a model study at Vicksburg of Conneaut Harbor with this money we have, and which we are getting, to determine the proper design of the breakwater at Conneaut.

Mr. KIRWAN. In view of this St. Lawrence seaway also?

General BERRIGAN. This is more of a study of safe anchorage inside the harbor and protecting the inner harbor from the outside influences, and it is independent of the fact that Conneaut will be included in this $835,000 study of all Great Lakes harbors, for which we have $210,000 in the fiscal year 1958 tentative allocation.

Mr. KIRWAN. All right.

CONSTRUCTION

Under "Construction," I note you have a request for $27,254,000 for 15 projects.

CALUMET-SAG MODIFICATION

At this point in the record we shall insert pages 8 through 12 of the justifications.

(The pages referred to follow:)

CONSTRUCTION, GENERAL—LOCKS AND DAMS (NAVIGATION)

ILLINOIS WATERWAY, CALUMET-SAG MODIFICATION, ILLINOIS AND INDIANA, PART I

(Continuing)

Location.—In northeastern Illinois. Part I of the Calumet-Sag modification of the Illinois Waterway extends from Sag Junction (approximately 12 miles above Lockport) via the Calumet-Sag Channel and the Little Calumet and Calumet Rivers to turning basin No. 5 near the entrance to Lake Calumet, a distance of 23.8 miles.

Authorization.—1946 River and Harbor Act.

Benefit-cost ratio.—2.51 to 1 (pt. I only).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$79,100,000	
Estimated non-Federal cost	18,500,000	
Cash contributions	0	
Other costs	18,500,000	
Total estimated project cost	97,600,000	
Appropriations to June 30, 1956	5,252,000	
Appropriations for fiscal year 1957	8,500,000	
Appropriations to date	13,752,000	17
Appropriations requested for fiscal year 1958	6,000,000	25
Balance to complete after fiscal year 1958	59,348,000	

PHYSICAL DATA

Channels:

(*a*) Sag-Junction to Blue Island lock, 9 feet deep by 225 feet wide.

(*b*) Blue Island lock to turning basin No. 5, 9 feet deep by 300 feet wide.

Lock: 110 feet by 1,000 feet.

Dam: 280 feet long with spillway section 53 feet long.

Lift: 5 feet.

Relocations:

12 railroad bridges.

16 highway bridges (conversion to lift).

Status (Jan. 1, 1957)

	Percent	Completion schedule
Dredging in Calumet-Sag Channel:		
1st 3 miles, sec. 1	45	December 1957.
Mile 306.5 to 309.6, sec. 2	2	March 1959.
Mile 309.6 to 313.5, sec. 3	0	April 1960.
Mile 313.5 to 317.0, sec. 4	0	April 1961.
Mile 317.0 to 319.7, sec. 5	0	Do.
Acme Bend	0	December 1959.
Turning basin No. 5	0	Do.
Highway bridges, conversion to lift	0	June 1960.
Relocation of railroad bridges	0	June 1962.
Construction of Calumet River lock	0	August 1960.
Demolition of Blue Island lock	0	January 1960.
Part I		June 1962.

JUSTIFICATION

The Illinois Waterway is an important link in the Nation's inland waterway system connecting the Great Lakes with the Mississippi River system. Improvements to the Calumet-Sag Channel and adjoining channels will provide channel dimensions and bridge clearances which will permit large, modern-sized tows to operate and serve the large industrial area of the Calumet region, with its great concentration of heavy industry, together with the exchange of cargo in Lake

Calumet with deep-draft vessels of the Great Lakes. The region through which the Calumet-Sag route passes is steadily developing. The Chicago Regional Port Authority is constructing a large modern harbor in Lake Calumet for the handling of lake and barge cargo. Two grain elevators, each with a capacity of 6.5 million bushels, a large warehouse, three transit sheds, two docks, and rail and highway facilities are nearing completion. Railway facilities are in the process of expansion and highways are being improved. Numerous industries are planning the acquisition of sites for new plant facilities along the waterway. Industrial expansion in the area of the Calumet-Sag project in the year of 1956 has amounted to $131,500,000 broken down as follows: Oils and chemicals, $24,200,000; general manufacturing and production, $27,700,000; iron and steel production, $56,600,000; and docks and terminal improvements, $24 million. In order that the development of this exceedingly important industrial area may not be hampered, and that local authorities may have a sound and tangible basis upon which to plan, it is of major importance that construction be completed as soon as practicable. Evidence of the need for the project is the rapid growth of tonnage carried on the Calumet-Sag Channel. Commerce has increased from 1 million tons in 1945 to 4,600,000 tons in 1955 in spite of the present narrow 60-foot channel and the very restricted bridge clearances which limit tows to 1 or 2 barges and to one-way traffic, and the lack of any present adequate inland navigable connection with the Calumet industrial area. Studies of potential traffic indicate that within 5 years after completion of part I of the project, the estimated barge traffic will be 8,240,000 tons annually.

Fiscal year 1958

Continue dredging in Calumet-Sag Channel	$1, 835, 800
Continue reconstruction Gulf, Mobile & Ohio RR. bridge	741, 000
Initiate reconstruction Blue Island bridges	2, 250, 000
Initiate construction of lock	775, 000
Engineering and design	80, 300
Supervision and administration	317, 900
Total	6, 000, 000

With the funds requested for fiscal year 1958, widening of the Calumet-Sag Channel, reconstruction of the Gulf, Mobile & Ohio Railroad bridge will be continued. Reconstruction of the Blue Island group of bridges, and construction of lock in Calumet River will be initiated. Planning for additional channel widening and additional bridge relocations will also be accomplished. Planning for the highway bridge relocations (conversion to lift) will be initiated. The funds requested represent the minimum essential for orderly and efficient prosecution of the project.

COMPLETED WORK, CALUMET-SAG MODIFICATION

None.

REMAINING WORK, CALUMET-SAG MODIFICATION (PARTS II AND III)

Work to complete part II of the Calumet-Sag modification includes:

Channel 9 feet deep by 225 feet wide along the general route of the Grand Calumet River from its junction with the Little Calumet River to and in the Indiana Harbor Canal to 141st Street, East Chicago, Ind.

Channel 9 feet deep by 160 feet wide in the Grand Calumet River from its junction with the Indiana Harbor to Clark Street in Gary, Ind., with a turning basin at Clark Street.

Construction of a lock and controlling works in the Grand Calumet Channel west of the Indiana Harbor Canal.

Reconstruction of railroad bridges across Grand Calumet River.

The estimated cost of the remaining work summarized above in part II is $35,800,000.

Further work to complete part III of the Calumet-Sag modification includes:

Channel from Lockport to controlling works, not less than present width by 9 feet deep.

Channel from the controlling works to the junction with the Calumet-Sag Channel, 9 feet deep by 225 feet wide.

Replacement of emergency dam (controlling works) above Lockport, Ill.

The estimated cost of the remaining work summarized above in part III is $15,300,000.

Non-Federal costs.—The cost to local interests of complying with the requirements of local cooperation is as follows:

	Part I	Part II	Part III
(*a*) Lands and damages	$743,000	$700,000	$375,000
(*b*) Relocation of railroad bridges	5,353,000	5,500,000	
(*c*) Relocation of highway bridges	11,986,000	25,500,000	9,325,000
(*d*) Relocation of utilities	418,000		
Total	18,500,000	31,700,000	9,700,000

In addition, local interests in constructing or improving channels which form a useful part of the project expended $16,200,000.

Status of local cooperation.—The following responsible agencies are furnishing the required assurances of local cooperation for the Calumet-Sag modifications:

Board of Trustees of the Sanitary District of Chicago
Board of Commissioners of Cook County
The State of Illinois
City Council of City of Chicago
Board of Commissioners of the Forest Preserve District of Cook County

Formal assurances have been given all of the required local cooperation for part I of the Calumet-Sag modification will be furnished, except for the improvement in the Little Calumet River at Acme Bend, the widening of turning basin No. 5 at the entrance to Lake Calumet, and the easements and rights-of-way for the lock in Calumet River. Negotiations are under way with the responsible authorities for furnishing these remaining assurances. No difficulties are anticipated.

Lands owned by the Metropolitan Sanitary District of Chicago and the Forest Preserve District of Cook County are being furnished as required. Acquisition of privately owned land is underway by the sanitary district. On December 10, 1956, the president of the sanitary district announced that he intended to present to the Illinois State Legislature, convening in January 1957, a request for additional financial authorization to permit acquisition of the remaining privately owned lands and alterations of utilities for the remaining channel dredging, widening at Acme Bend, and for the Calumet River lock. The Inland Waterway Coordinating Committee is obtaining public support of this legislation.

The Chicago Regional Port District is presently engaged in obtaining the required lands, easements, and rights-of-way for widening turning basin No. 5.

It is expected that local interests will fulfill the requirements of local cooperation as construction proceeds.

Comparison of Federal cost estimate.—The current Federal cost estimate of $79,100,000 is a decrease of $555,000 under the latest estimate ($79,655,000) submitted to Congress. This change is the net effect on the project cost estimate of a number of changes in the cost estimates for individual project features or elements. The major changes resulted from application of the general price level rise ($2,438,000) net increased costs for relocations ($3,539,000), an increase in the Calumet River lock cost due to changes in design and dimensions ($2,228,000) and a decrease in the cost of channels due to recent bid experience on dredging work ($8,778,000).

Mr. KIRWAN. Last year's justifications showed the benefit-cost ratio at 2.4 to 1. This year you indicate it is 2.51 to 1.

What is the basis for the increase?

General BERRIGAN. That is the result of the reduction of the estimated cost of the project with no change in the average annual benefits.

Mr. KIRWAN. The cost of the project dropped down some; is that right?

General BERRIGAN. Yes, sir.

Mr. KIRWAN. The justifications say: "Numerous industries are planning the acquisition of sites for new plant facilities along the waterway."

How firm are these plans, what industries are involved, and how large are the investments estimated to be?

General BERRIGAN. Well, actually, there is very little land that is not in public ownership along the Calumet-Sag Canal or the Calumet River. I know some industries have been contacting the public agencies concerned with this, but I do not know their names.

Mr. KIRWAN. How extensive is the harbor construction in Lake Calumet that is being done by the Chicago Regional Port Authority?

General BERRIGAN. The Chicago Regional Port Authority has just about completed a $24 million improvement of the Lake Calumet Harbor.

Mr. KIRWAN. They spent the money themselves for that; did they not?

General BERRIGAN. Yes, sir. They sold revenue bonds and they have leased out grain elevators and transit sheds, warehouses, and so forth, in order to obtain the necessary income to pay off these bonds.

RELOCATION OF BLUE ISLAND BRIDGES

Mr. KIRWAN. How much has been spent on the relocation of the Blue Island bridges? How much is budgeted for 1958?

General BERRIGAN. We have spent nothing to date on the Blue Island bridges. We, actually, in the last year's budget included $1 million for acquisition of the necessary real estate, and that is still in process because there are so many ownerships involved.

Mr. KIRWAN. What is the estimated cost for relocating those bridges and how many miles of channel are involved?

General BERRIGAN. The Blue Island bridges are estimated at $18,530,000. I would say that there is less than 1 mile of channel involved in the Blue Island area.

Mr. KIRWAN. Less than a mile of it involved?

General BERRIGAN. Yes, sir; in the Blue Island area.

Mr. KIRWAN. How much money is involved?

General BERRIGAN. $18,530,000.

Mr. KIRWAN. In other words, there are quite a few railroads going into Chicago; is that it?

General BERRIGAN. Yes, sir. In this particular area there is quite a concentration.

Mr. KIRWAN. If there is only 1 mile of channel involved, there must be a number of railroads going in there.

General BERRIGAN. Yes, sir; and $3 million of the money we spend next year will be for the Blue Island group of bridges.

Mr. KIRWAN. Which the Army Engineers or the Congress or no one else has had anything to do with. Those railroads have been there for a long time, and naturally, it is going to be expensive.

If the rest of the project were completed, would the benefits to be gained from relocating the Blue Island bridges be equal to the cost?

General BERRIGAN. I would have to make a study to determine that.

Mr. KIRWAN. You might submit such information as you have in that regard for the record at this point.

(The information requested follows:)

The Calumet-Sag project has been justified on commerce anticipated to result within 5 years after completion of the project. The benefits would result largely from savings in transportation costs due to use of 8-barge tows rather than the use of 2-barge tows necessitated by the restricted clearances in the present narrow channel with low bridges.

Most of the anticipated increase in commerce is destined to pass through the Blue Island Reach, and would require the alteration of the existing bridges. The incremental benefits resulting from improvement of the Blue Island group of bridges would far exceed the cost of this work.

BRIDGE HEIGHTS

Mr. KIRWAN. To what height are the bridges along the Calumet-Sag Channel being raised?

General BERRIGAN. The bridges are being raised to 25 feet with a provision that in case of a national emergency they can be raised to 40 feet. I think 25 feet is a reasonable vertical clearance for towboats in this reach.

Mr. KIRWAN. Why is this much clearance needed? Couldn't the manufactures of these boats design them for such channels as this, that have limited overhead clearance, so they would not have to raise the bridges that high. They seem to have made progress in almost everything else.

General BERRIGAN. Almost all the towboats that operate on the Cal-Sag Channel will have telescoped pilothouses. In other words, there will be such towboats for this area. The rest of the Illinois Waterway has essentially a clearance of about 40 feet.

Mr. KIRWAN. But, they have a different type boat now on this; do they not?

General BERRIGAN. At the present time they do, of course, because the clearances are only about 10 or 12 feet, but I suspect these newer boats will have pilothouses located on a hydraulic lift.

Mr. KIRWAN. You will have the same type boat after the improvement of the Cal-Sag?

General BERRIGAN. Yes, sir. They need about 25 feet for the pilots to have any visibility of their big tows to look out in front to see where they are going.

UNOBLIGATED BALANCE

Mr. KIRWAN. What has happened that causes you to estimate that there will be an unobligated balance of $3,427,300 at the end of 1957 for this project?

General BERRIGAN. The biggest factor has been our inability to get the railroad bridges under contract. In fact, in the last week we just got the first two railroad bridges—the Michigan Central and the Gulf, Mobile & Ohio—ready for opening of bids and awards. One of them will be made today or tomorrow, and the next one should be made next week. These will be the first two railroad bridges. These are operating railroads, and we have entered into contracts with them to replace their bridges with ones which have the proper clearances. They have been moving along, but they are understaffed engineer-wise, even as we are, and it has been a slow process for their engineers to take care of their regular work and still carry on this work for us.

Mr. KIRWAN. They have the same problem you do with regard to getting trained engineers?

General BERRIGAN. Trained engineers are what they need.

STATE LEGISLATION

Mr. KIRWAN. Tell us about the legislation mentioned in the justifications as being requested of the Illinois State Legislature to permit additional acquisition of lands.

General BERRIGAN. I am happy to report that it passed, in fact, as the first bill that passed the Illinois Legislature this year. It authorized the Metropolitan Sanitary District of Greater Chicago to issue $6 million worth of nonreferendum bonds. In fact, it was the first bill entered and it was the first bill that got on the floor and passed under an emergency clause. The sanitary district has already sold $2 million worth of the $6 million in bonds at a very good interest rate of 3.1 percent.

In order for us to acquire the right-of-way for the third section, which is miles 309.6 to 313.5, starting from the west, they have turned over a certificate for some $146,000 to the Chicago district to deposit in the court in order to condemn the necessary real estate to permit us to go ahead with the third section.

We have put out an invitation for bids for section 3.

Mr. KIRWAN. Good.

Mr. Boland, do you have question on the Calumet-Sag modification?

Mr. BOLAND. What is the total length of this project?

General BERRIGAN. The widening portion is 16 miles. Then you get into the Little Calumet River and the Calumet River itself, and we do no widening.

Mr. BOLAND. What is the distance from the Great Lakes to the Mississippi?

General BERRIGAN. It depends upon where you measure.

Mr. BOLAND. On this particular waterway. This is the project which connects the Great Lakes with the Mississippi; is it not?

General BERRIGAN. Yes, sir. You might say you go about 9 miles in the Little Calumet River to Lake Calumet, and then about 16 miles in the Cal-Sag Channel to Sag Junction. Then it is about another 12 miles to the Lockport lock, and then you are in the Illinois Waterway. That is some 300 miles to the Mississippi River.

Mr. BOLAND. That is all, Mr. Chairman.

Mr. KIRWAN. Mr. Jensen.

Mr. JENSEN. This project is estimated to cost $79,100,000; is that right?

General BERRIGAN. Federal cost; yes, sir.

NON-FEDERAL COSTS

Mr. JENSEN. And the estimated non-Federal cost is $18,500,000. There is a total of $97,600,000.

General BERRIGAN. That non-Federal cost has now been increased to about $22,835,000.

I would like to point out also that there is a bill in the Public Works Committee that was passed in the omnibus authorization bill last year that transfers part of the local cost to the Federal Government on highway bridges in part I, the part we are dealing with. It is just under $10 million. It is thought the Federal cost would increase about $10 million and the non-Federal cost would decrease to a little under $13 million.

Mr. JENSEN. What percent of the relocation of bridges are the local people paying for?

General BERRIGAN. Under Truman-Hobbs, if this omnibus bill is passed it will be in the order of 15 percent.

Mr. JENSEN. The local interests pay?

General BERRIGAN. Local interest costs on the bridges. That is the railroads and the highways.

Mr. JENSEN. And also utilities?

General BERRIGAN. No, sir. They are paying for the utilities. That accounts for a part of this $23 million that they have to pay.

Mr. JENSEN. They pay all utilities?

General BERRIGAN. Yes, sir; essentially.

Mr. JENSEN. This project is to be completed when? What year will it be completed?

General BERRIGAN. About 1962.

Mr. JENSEN. 1962?

General BERRIGAN. Fiscal year 1962 is the end of it. However, we are collecting benefits as we widen this.

The very first work permitted them to get into the canal with 3-barge rather than 2-barge tows. Some of the people are doing that.

Mr. JENSEN. When you build new bridges, you naturally build more modern, up-to-date, more costly bridges than the ones you have abolished. Is that difference the part that the local interests pay, or how do you handle that?

General BERRIGAN. Under this Truman-Hobbs formula, if the bridge is essentially the same bridge as the old one, except it is new, they would pay for the expired service life of the old bridge, based on its original cost.

If there is an improvement in the bridge, of course, they pay for the cost of the improvement of the bridge—carrying capacity, et cetera.

Mr. JENSEN. Are any of these bridges toll bridges?

General BERRIGAN. No, sir. There is one toll bridge under construction at the present time, but that one is being built with very high clearances and ample width.

Mr. JENSEN. You know, when we build bridges out in our country across Federal streams, we build toll bridges. The toll pays the whole bill. Are these bridges across what we consider a Federal stream?

General BERRIGAN. Well, you might call the Cal-Sag Channel, a portion of it, an artificial channel built to connect the system. Of course, it is now a Federal stream because it has interstate commerce on it.

I would like to point out that these people started thinking about this thing in the early thirties, and all the bridges they have built since then at their own expense have ample clearances. Also, they have agreed to abandonment of quite a few of these bridges without replacement. We have lots of crossings. This is practically in the Chicago city limits. In fact, it abuts the Cal-Sag Channel in several places.

We have a lot of streets that cross with local traffic. What we are doing is lengthening bridges that have as little as 60-foot horizontal clearance to—in most instances—225-foot horizontal clearance.

Mr. JENSEN. What would be wrong with charging tolls on some of these bridges, that all of the taxpayers of America pay for, just as we

do in a lot of other places, including my part of the country? What would be wrong with letting the people who use the bridge pay for it over a period of 35 or 40 years, as we do?

General BERRIGAN. These are relatively small bridges. There are so many of them that are involved.

Mr. JENSEN. And the more involved, the more cost to all of the taxpayers of the United States to build them. We would not think of building a bridge across a big stream out in our section of the country and charge it to all the taxpayers of the United States. We would charge it to the people who use them. They pay for them in tolls, every time they go across the bridge. We just built one across the Missouri River a year or so ago, and it is paying out much faster than they expected to do it, and the taxpayers of America will not have a single dime of expenditure in the building of that bridge.

General BERRIGAN. These are bridges these people already have that we are replacing. If they want any more bridges, they are going to have to pay for them.

Mr. JENSEN. That is all, Mr. Chairman.

Mr. KIRWAN. Mr. Taber.

HISTORY OF PROJECT

Mr. TABER. This project has been going as a local project for a good many years; has it not?

General BERRIGAN. Yes, sir. It was originally constructed by the local interests and tied into their expense in connection with the sanitary problems, as well as the navigation problems of the Chicago area.

Mr. TABER. It began to get in under the Federal tent about when?

General BERRIGAN. Back in the early thirties there were 3 passing points, each 5 miles apart on the 16-mile Cal-Sag Channel, that were built at Federal expense.

Mr. TABER. How deep is it now?

General BERRIGAN. Its usable depth is classified as 9 feet, although it is deeper than that in places, particularly the 60-foot channel. These passing places were only made 9 feet deep and the work we are doing, widening from 60 to 225 feet, will only be to a 9-foot depth.

Mr. TABER. Two hundred and twenty-five feet did you say?

General BERRIGAN. Yes, sir. We are widening it to 225 feet from its present width of 60. It is about 60 feet wide and as much as 13 feet deep in places.

Mr. TABER. Two hundred and twenty-five feet is a pretty wide channel, is it not? How wide are the boats that operate there?

General BERRIGAN. These barges that operate, if you put two abreast, which is normal operation for tows, on the waterway, that is 70 feet, and pass another one, that is 140 feet, and then it means that they have got 15 or 20 feet between themselves and the shore, and between each other and that is not very much.

Mr. TABER. How much traffic is there in this area?

General BERRIGAN. We estimated the capacity of this 60-foot-wide channel 3 years ago as 3 million tons. It is getting up pretty close to 5 million tons.

Mr. TABER. How much of the widening job is done?

General BERRIGAN. The first contract was for 3 miles. The contractor has got about 2 of the 3 miles done. Of course, there are bottlenecks at this Alton railroad bridge and other places.

The second contract, which is for another 3 miles, is probably a quarter to a half-mile done. We have only got maybe 2 miles or a little more of the 16 miles completed so far. We are expecting to award another contract in May and then we will have 10 of the 16 miles under contract.

Mr. TABER. What is the status of the funds at the present time? You have had appropriations of about $13,752,000.

General BERRIGAN. We have expended about half of that—about $7 million of it has been expended so far.

Mr. TABER. You plan to spend how much in the rest of the year?

General BERRIGAN. That figure I gave you was to the end of this year. In other words, we expect to carry over a little over $6 million unexpended, and about $2,371,000 unobligated.

We, as you know, had $8.5 million last year, and we are only requesting $6 million this year because of this big carryover. We will have much more work underway. We will have 3 railroad bridges under contract, as well as 3 different contracts for the widening, so we will have 6 big contracts in the coming year as compared to only 2 in the present fiscal year.

BRIDGE RELOCATIONS

Mr. TABER. How many of these bridges are there?

General BERRIGAN. There are about 28 bridges—12 railroad and 16 highway. That is in part I.

Mr. TABER. The Federal Government is paying for all of that?

General BERRIGAN. No, sir. At the present time, unless the new authorization comes through, the Federal Government is paying for the railroad bridges under Truman-Hobbs, which means we are paying about 85 to 90 percent of the cost of the railroad bridge modification, and on the highway bridges, under present authorization, they are paying for everything except this provision for future raising, which is relatively small.

The provision for future raising is a preparation for a wartime emergency. In World War II, we brought ships from the Great Lakes through the Chicago Loop down the Mississippi system, and they had to make provisions, and still have provisions—in fact, the Navy has a contract that anyone who wants to take a ship with a clearance requirement of 40 feet now has to pay about $10,000 under a Navy contract to take a ship down.

If we had another war, we could take ships down the Cal-Sag and raise all these bridges. The Federal Government is paying that part of the cost, which amounts to something less than 10 percent, I would say, of the bridge cost.

Mr. TABER. How much of this money is going to go for bridges, and how much for the widening of the canal?

General BERRIGAN. Most of the money is going to go for the bridges. The railroad bridge part of this job is the big part of the cost; $41.5 million is for railroad bridges in this estimated cost; $2.2 million is going for this conversion to lift bridges, so that we can raise the bridges to 40 feet in case we want to use it during a war emergency, to bring ships down the Mississippi.

The widening of the channels is $21,600,000 and the cost of a lock is $6½ million.

Mr. TABER. That is all.

ASHTABULA TO PITTSBURGH ROUTE

Mr. KIRWAN. I was not going to take this up, but I cannot help but take it up now, General, especially after the last remark you made about the value of a water link from the Great Lakes to the river system if we get into another war. Do you have a man with a pointer?

Point out Ashtabula on the map.

General BERRIGAN. Right here [indicating].

Mr. KIRWAN. Point out Pittsburgh.

General BERRIGAN. About in here [indicating].

Mr. KIRWAN. That is a distance of about 100 miles; is that correct?

General BERRIGAN. Yes, sir.

Mr. KIRWAN. Take Ashtabula, that is the second port of call from where the St. Lawrence seaway comes in. First is Buffalo, then Ashtabula—later on Conneaut will be second—where they are ready to receive. When Conneaut is improved Ashtabula will still be the third port of call.

Now, trace, if you will, from Ashtabula up through the lakes down to Calumet-Sag.

General BERRIGAN. Ashtabula through the Detroit River, St. Clair River, through the Straits of Mackinac, down to Calumet Harbor and up to Cal-Sag.

Mr. KIRWAN. Take it across the Illinois River over into the Mississippi down to Cairo, Ill.

General BERRIGAN. It would be all the way down here. Somewhere about here would be Cairo [indicating].

Mr. KIRWAN. Then up the Ohio to Pittsburgh.

General BERRIGAN. You come up the Ohio, off the map into Pittsburgh.

Mr. KIRWAN. That is one thousand six hundred-some miles, when the other was only 100 from the Great Lakes to the heart of America.

That is the way America does business. There is no opposition to the Calumet-Sag project. The railroads hardly gave any opposition. You are going to do all those things to improve water navigation and yet there is hardly any opposition to this project.

The greatest project in the world, which you just pointed out on the map, from Ashtabula to Pittsburgh, would save the shipping industry 1,500 miles. You talk about opposition. That is where the opposition is.

Who first recommended that project that you just went over?

General BERRIGAN. The Cal-Sag, sir?

Mr. KIRWAN. No, the connecting of the Great Lakes with the Ohio River.

General BERRIGAN. The Grand-Mahoning?

Mr. KIRWAN. Yes, sir. Who first recommended that? History shows that George Washington did. He went in a boat up to Lake LeBoeuf. It tells you in history that he predicted the day will come when that waterway would be built. Washington did not make all of the trip to the Great Lakes. He made it up through Meadville and up into Lake LeBoeuf.

The Army Engineers made three surveys. That was one, the one George Washington predicted. The other was the Grand-Mahoning and the third was over to Cincinnati from Toledo. They recommended the one we are talking about, that you just drew on the map.

From the day they recommended that, you never saw such opposition in your life. If you bought a ticket down to Arizona, the railroad clerk would ask you, "Do you mind signing this petition while I make out this ticket"?

Mr. TABER. Is there any traffic now from Asbtabula down through to the Mississippi?

Mr. KIRWAN. No; there is no canal.

Mr. TABER. They have the Calumet-Sag down there?

Mr. KIRWAN. But that is the long, long way around. The point I am driving at, and the engineers will tell you, there are 40 million tons in sight for the shortcut on the Grand-Mahoning, if it was built.

General BERRIGAN. That is right.

Mr. KIRWAN. I am sorry I took up so much of the committee's time, but I waited a long time, General, to call your attention to this. You made that statement about the Calumet-Sag's value in another war. If war comes again, we will spend many millions of dollars taking the freight down the existing waterway and back up 1,600 miles to the heart of America, Pittsburgh, where it could have been done in 100 miles.

REVISION OF FEDERAL COST OF BRIDGES ON CALUMET-SAG

Mr. BOLAND. What is the justification for increasing the Federal cost of these bridges on the Cal-Sag by $10 million and reducing the non-Federal cost by that same amount in the authorizing bill?

General BERRIGAN. The bill that was vetoed.

Mr. BOLAND. And which is now passed by the Senate.

General BERRIGAN. That is placing highway bridges under Truman-Hobbs.

Mr. BOLAND. Is that a usual thing?

General BERRIGAN. If the project were studied and authorized now, we would treat the highway bridges and railroad bridges probably the same. When this was authorized in 1946, railroad bridges were under Truman-Hobbs, but highway bridges were not.

Mr. BOLAND. Are highway bridges now under Truman-Hobbs?

General BERRIGAN. Yes, sir.

Mr. BOLAND. And have been since when?

General BERRIGAN. Since 1952. In other words, a modification of the Truman-Hobbs bill was made to include highway bridges.

Mr. BOLAND. Any highway bridges which have been authorized for replacement in connection with any project since 1952 would be financed under the Truman-Hobbs Act?

General BERRIGAN. That is the way we would treat them.

Mr. BOLAND. So there is justification for adding the $10 million to the Federal cost and reducing the non-Federal cost by $10 million?

General BERRIGAN. Among the justifications, I feel that the Cal-Sag is not a local project. This is a project that connects the Mississippi system with the Great Lakes system. The benefits are not as local as most projects.

In other words, it is general navigation. I feel that in the future it would be treated as an obstruction to general navigation and, therefore, under Truman-Hobbs.

Mr. BOLAND. Do you have any knowledge of any other projects where this will be done?

General BERRIGAN. Yes, sir. One of the projects we have here is the bridge, a highway and railroad bridge, but I think it is mostly a highway bridge up at Houghton-Hancock in the Keweenaw Peninsula of Michigan.

Mr. BOLAND. That is all.

CHEBOYGAN HARBOR

Mr. KIRWAN. The next project is Cheboygan Harbor, Mich.

Insert pages 15 and 16 in the record.

(The justifications referred to follow:)

CHEBOYGAN HARBOR, MICH.

(Continuing)

Location.—Cheboygan Harbor, Mich., is located at the mouth of the Cheboygan River about 100 miles northwest of Alpena, Mich.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—Benefits from the improvement are not susceptible of monetary evaluation.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$283,000	
Estimated non-Federal cost	3,000	
Cash contribution	0	
Other costs	3,000	
Total estimated project cost	286,000	
Appropriation to June 30, 1956	0	
Appropriation for fiscal year 1957	110,000	
Appropriations to date	110,000	39
Appropriation requested for fiscal year 1958	173,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channels: Deepen existing channel from 18.5 feet to 21 feet, and deepen and widen the turning basin.

Status (January 1, 1957): Not started.

Completion schedule: September 1957.

JUSTIFICATION

The turning basin and depth in the river channel are considered inadequate for maneuvering of the United States Coast Guard cutter *Mackinaw* which is stationed at Cheboygan for rescue and icebreaking operations. The operations of the *Mackinaw* are under emergency conditions, and it is necessary that sufficient depth of water be available at all times to allow free movement of this vessel. Existing and prospective commerce movements in the area are dependent upon the operation of the icebreaker during freezes. The safety of life and property also is dependent to some extent upon the efficient and speedy operation of the Coast Guard vessel in the open navigation season.

Fiscal year 1958.—The $173,000 requested for fiscal year 1958 will be used to complete the project.

COMPLETED MODIFICATIONS

Under the 1896, 1907, and 1937 River and Harbor Acts the river channel has been dredged from the lock in Cheboygan River to the 18.5-foot depth contour in Lake Huron at an estimated cost of $113,000.

REMAINING MODIFICATIONS

Non-Federal costs.—The cost to local interest is $3,000, all for lands and easements.

Status of local cooperation.—Assurances of local cooperation were furnished by by resolution of the city council of Cheboygan dated August 24, 1956. The city of Cheboygan has furnished perpetual easement deeds for the land needed for enlarging the turning basin and for spoil-disposal area. All requirements have been fulfilled.

Comparison of Federal cost estimate.—The current Federal cost estimate of $283,000 is an increase of $16,000 over the latest estimate ($267,000) submitted to Congress. The increase is due to price level changes.

Mr. KIRWAN. There was no request for 1957 funds for this project. The appropriation was put in by the Senate.

Do you think this project is really needed, or has it been put in the 1958 budget just to comply with the expressed feelings of the Congress in connection with the 1957 bill?

General BERRIGAN. Cheboygan Harbor is the place where they keep the big icebreaker of the Coast Guard, the *Mackinaw*. Due to high water, we have had in recent years, the *Mackinaw* has been able to get in and out. We are now getting into a cycle of lower levels on the lakes.

We need this deepening to essentially take care of this icebreaker. It is strategically located to do the job. It is up there where it can get into Lake Michigan, Lake Huron, and get into the Soo and the St. Marys River.

In fact, the *Mackinaw* came out of here and rescued one of the ferries that runs from the northern to the southern peninsula of Michigan just this spring.

Mr. KIRWAN. $286,000 will complete it?

General BERRIGAN. We have reduced that $123,000, because we got good bids.

Mr. KIRWAN. What specific difficulties have been encountered at this harbor in recent years? Has there been anything besides that icebreaker?

General BERRIGAN. No. There have been no difficulties because of the high water in the lake. We have had above high water, you might say abnormally high water since 1952. Now we are getting into a low cycle and the draft of the *Mackinaw* is the controlling thing.

Mr. KIRWAN. Has work been started yet?

General BERRIGAN. The contract has been awarded, and the contractor is scheduled to begin work about the 1st of May.

Mr. TABER. How much is the contract?

General BERRIGAN. The low bid was $133,750. The high bid was $448,330.

Mr. TABER. We do not need to appropriate more than $133,000 then?

General BERRIGAN. $123,000.

Mr. KIRWAN. You requested $50,000 more than the bid.

General BERRIGAN. Yes, sir, but we have lowered it since because of the good bids.

(The following information was furnished later:)

The total estimate of Federal cost of the Cheboygan Harbor project was $283,000 at the time of the submission of the budget to Congress. On the basis of that estimate and with $110,000 appropriated in fiscal year 1957, the amount of funds required to complete in fiscal year 1958 was $173,000, which was included in the budget. Subsequent to the above, bids were received for the work of improvement of the harbor which permitted a reduction in the estimated cost of $160,000. Therefore, $50,000 is required in fiscal year 1958 to complete the project, representing a reduction in the budget request of $123,000.

GREAT LAKES CONNECTING CHANNELS

Mr. KIRWAN. We will now take up the Great Lakes connecting channels.

Place pages 22 through 26 in the record.

(The justifications referred to follow:)

GREAT LAKES CONNECTING CHANNELS

(Continuing)

Location.—The Great Lakes connecting channels include the waterways between Lakes Superior and Huron, Lakes Huron and Michigan, and Lakes Huron and Erie, which provide for deep-draft navigation between the upper and lower Great Lakes. The St. Marys River is the connecting channel between Lakes Superior and Huron. The Straits of Mackinac is the connecting channel between Lakes Michigan and Huron. The St. Clair River, Lake St. Clair and Detroit River constitute the connecting channel between Lake Huron and Erie.

Authorization.—1946 and 1956 River and Harbor Acts.

Benefit-cost ratio.—1.77 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost:		
Corps of Engineers	$135,800,000	
U. S. Coast Guard	104,000	
Estimated non-Federal cost	77,000	
Cash contribution	0	
Other costs	77,000	
Total estimated project cost	135,981,000	
Appropriations to June 30, 1956	99,000	
Appropriations for fiscal year 1957	5,000,000	
Appropriations to date	5,099,000	4
Appropriations required for fiscal year 1958	13,000,000	13
Balance to complete after fiscal year 1958	117,701,000	

PHYSICAL DATA

Channels:

St. Marys River: Deepen channels 63 miles long, varying in widths from 300 feet to 1,500 feet to depths varying from 27 feet to 30 feet and remove shoals from Gross Cap to Crab Island and construct anchorage areas at Point Iroquois shoal 29 feet deep and in Lake Nicolet 28 feet deep.

Straits of Mackinac: Removal of shoals between Mackinac Island and Round Island to depth of 30 feet, length, 4,000 feet, width, 1,250 feet, and removal of Poe Reef shoal to 30-foot depth.

St. Clair River: Deepen 46.2 miles of river channels varying in widths from 700 feet to 1,400 feet, varying in depths from 27.1 to 30.0 feet.

Lake St. Clair: Deepen channel, length 17.2 miles, width 700 and 800 feet, depth 27.5 feet.

Detroit River: Deepen 32 miles of river channels varying in widths from 300 feet to 1,200 feet, varying in depths from 27.5 to 29 feet; deepen channel east of Detroit River light, length 8.7 miles, width 1,200 feet, depth 28.5 feet; and removal of the Pelee Island shoal to 28.5-foot depth.

Status (Jan. 1, 1957)

	Percent	Completion schedule
St. Marys River	0	June 1963.
Middle Neebish Channel	0	June 1960.
Lake Nicolet Channel	0	June 1960.
Straits of Mackinac	0	June 1963.
St. Clair River	0	June 1961.
Lake St. Clair	0	June 1961.
Lower end	0	June 1958.
Detroit River	0	June 1963.
Amherstburg Channel	0	June 1960.

JUSTIFICATION

Deepening two-way and downbound channels and westerly 300-foot width of the controlling upbound channels to provide a safe draft of 25.5 feet at low water datum is necessary to serve adequately the fleet of existing and prospective vessels which will use the connecting channels of the Great Lakes.

For the 10-year period 1946–55, the average annual commerce between Lakes Superior and Erie has been well over 100 million tons; St. Marys River 107 million tons; St. Clair River 112 million tons; and Detroit River 123 million tons. Principal commodities are iron ore, coal, stone, sand, gravel, grain and petroleum products. The free and continuous movement of these commodities is essential to the Nation's economy.

Deepening the connecting channels will permit the larger vessels of the present Great Lakes fleet to load to full capacity instead of light-loading as is currently required, and it will permit continuing the replacement of the older vessels of the present fleet with larger and more economical vessels. Generally, provision of the project will allow free and safe movement of the large vessels used in the Great Lakes commerce, including those vessels anticipated to move into the area through the St. Lawrence seaway. One way channels are provided in some of the connecting channels. The St. Marys River has the Middle Neebish Channel for upbound traffic and the West Neebish Channel for downbound traffic, while the Detroit River has the Amherstburg Channel for upbound traffic and the Livingstone Channel for downbound traffic. The first priority for construction has been given to the upbound Middle Neebish and Amherstburg Channels which have controlling depths of only 21 feet, thereby restricting their use to vessels loaded to less than capacity.

Fiscal year 1958.—The requested amount of $13 million will be applied to—

St. Marys River:	
Continue Middle Neebish Channel	$4, 110, 000
Initiate Lake Nicolet Channel	500, 000
Lake St. Clair—Continue and complete lower end	1, 460, 000
Detroit River—Continue Amherstburg Channel	5, 660, 000
Engineering and design	460, 000
Supervision and administration	810, 000
Total	13, 000, 000

Completion of the Amherstburg and Middle Neebish Channels at an early date is required to permit their use by upbound traffic and temporarily by downbound ore vessels while work is in progress on other channels. Funds are also required in fiscal year 1958 for completion of the work in the lower end of Lake St. Clair and for initiation of work in the Lake Nicolet Channel.

COMPLETED WORK—GREAT LAKES CONNECTING CHANNELS

St. Marys River.—Three locks for deep-draft navigation, a new powerplant, service facilities, and navigation channels and anchorage areas from Lake Superior to Lake Huron. The completed modifications were constructed at a total cost of $49,406,000.

Straits of Mackinac.—Navigation channel between Mackinac Island and Round Island and removal of Poe Reef shoal to a depth of 27 feet. The completed work was constructed at a cost of $449,000.

St. Clair River.—Navigation channels from the foot of Lake Huron to Lake St. Clair. The completed work was constructed at a cost of $3,169,000.

Lake St. Clair.—Navigation channel from the mouth of the St. Clair River to the head of Detroit River. The completed work was constructed at a cost of $3,357,000.

Detroit River.—Navigation channels from the head of the river to Lake Erie, side channels to Wyandotte and Trenton, Mich., and a turning basin at the lower end of Trenton Channel. The completed work was constructed at a cost of $21,574,000.

REMAINING WORK—GREAT LAKES CONNECTING CHANNELS

St. Marys River.—The 1942 River and Harbor Act authorized construction of the MacArthur lock. All work was completed at an estimated cost of $12,719,000 except the lower guard gate which is currently estimated at $440,000. This uncompleted feature does not hinder the full operation of the lock. The River and Harbor Act of July 24, 1946, provides for reconstruction of Poe lock. The cost of construction is currently estimated at $34,042,000. No work has been done on Poe lock.

Public Law 663, 84th Congress, 2d session authorized construction of a new lift bridge over South Canal, the upper approach to the MacArthur and Poe locks. The River and Harbor Act of 1945 authorized removal of Bridge Island. The estimated cost of construction of the bridge is $2,735,000 exclusive of the non-Federal cost currently estimated at $295,000. The estimated cost of removal of Bridge Island under the 1945 act is $1,250,000.

Straits of Mackinac.—None.

St. Clair River.—The River and Harbor Act of July 24, 1946, authorized improvement of the North Channel outlet, a light-draft side channel. The current estimate for construction is $109,000. No work has been done on this feature.

Lake St. Clair.—None.

Detroit River.—The River and Harbor Act of March 2, 1945, authorized construction of the American Channel north of Belle Isle, 21 feet deep and 200 feet wide. The current estimate for construction is $315,000. No work has been done on this feature.

The River and Harbor Act of May 17, 1950, authorized extension of the turning basin in Trenton Channel and channel dredging near the turning basin, west of Grosse Ile. The current estimate for construction is $2,260,000. No work has been done on this feature.

Non-Federal costs.—The estimated cost to local interests for reconstruction of submarine crossings is $77,000.

Status of local cooperation.—No local cooperation is required in connection with this project. However, since parts of the work are partially or entirely in Canadian Territory, the approval of the Canadian Government must be obtained for such work. Canadian approval for the work involved in the deepening of Amherstburg Channel has been received. Negotiations are in progress with Canada for the St. Marys River work and for the excavation of a cutoff canal at the lower end of St. Clair River over Canadian lands.

Comparison of Federal cost estimate.—The current Federal cost estimate of $135,800,000 is a decrease of $14,200,000 from the latest estimate ($150 million) submitted to Congress. A net reduction of $7,482,000 has been made due to favorable bids received on the Amherstburg Channel dredging and the reflection of prevailing prices for other units of work. A reduction of $3,150,000 due to elimination of construction of the Trenton Channel compensating works which will now be provided by use of dredge-spoil material at no additional cost; and by a decrease of $5,268,000 in supervision and administration costs due to a reanalysis of requirements for that work. These decreases are partially offset by one increase of $1,700,000 for St. Marys River due to inclusion of work at Frechette Point and South Canal which was inadvertently omitted from the previous estimate.

Mr. KIRWAN. This is an important project, and involves several navigation channels. Would you point these out on the map, and tell us where work has now been done and where work is planned for 1958?

General BERRIGAN. We have awarded a contract for the Amherstburg Channel. This is the upbound channel in the lower portion of the Detroit River. It is a one-way channel and it is the key to the situation.

It is presently a 21-foot channel, and we are going to make it a 27-foot channel, speaking in round terms. After completion of the Amherstburg Channel, we can go over and work in the one-way, downbound channel, which is now 25 feet, and deepen it to 27 feet. That will take care of this particular feature of the Detroit River.

The original cost estimate for Amherstburg was $38 million. However, after our detailed surveys had been made, we reduced the estimate and we placed the work under contract for $22 million.

The next one is in the lower St. Marys River. We have a similar situation with the middle Neebish Channel, which is a 21-foot upbound channel just below the locks of the Soo. We advertised for bids on it last Friday. That will also be the key, getting it down to 27 feet, so that we can work on the west Neebish, which is the downbound channel.

In each case we have to close the downbound channel for traffic in order to work on them. Then we will let contracts. One of the bad places is here, as you come out into Lake St. Clair, the channel at the foot of Lake Huron, in Vidal Shoals and others, but these first two contracts are the key to getting the job done.

We think we will finish them about June of 1960. We will then have a 25.5-foot safe-draft system both upbound and downbound in the St. Marys, St. Clair, and Detroit Rivers. That will be about 1 year later than the seaway.

Then, we expect 2 years later to complete the channel portion of the work, and by 1963 complete certain anchorages that are required to permit safe diversion of traffic during fog and other situations.

Mr. KIRWAN. Can you tell me offhand, General, how many boats go up and down the Detroit River in 24 hours?

General BERRIGAN. During the navigation season, there is a boat every 14 minutes on the Detroit River. You might say that the Detroit River is the busiest canal in the world—not the Suez or Panama, but there is more tonnage traffic that moves down this river than any other waterway in the world.

Mr. KIRWAN. I was telling Mr. Boland, looking out a window of a Detroit hotel last summer, it seemed every time you turned around boats were whistling, going by the hotel, up or down the river.

General BERRIGAN. I think there are probably 7 or 8 boats always in sight on the Detroit River during navigation season.

CANADIAN INTEREST IN PROJECT

Mr. KIRWAN. Part of the work on this project involves excavation on Canadian land. How are negotiations with Canada progressing? Will we pay anything for the right-of-way?

General BERRIGAN. We pay nothing for the right-of-way in Canada. The Amherstburg Channel is 100 percent in Canada. The

base of operations for all the contractors on this work is at the city of Amherstburg, which is in the Province of Ontario.

As soon as we got this appropriation, we entered into negotiations with the Canadian Government, and they have certain unemployment situations in Windsor, Ontario, which is sort of a Canadian suburb of Detroit, and they insisted that new hirings for this work in Canada come from Canada, and that permanent and key employees of United States contractors could be brought in from the United States.

Mr. KIRWAN. Is Canada contributing any of the funds, or anything other than good will, for the project? Canadian shipping, especially to and from such large ports as Prince William and Port Arthur will benefit considerably.

General BERRIGAN. Yes, sir; they will. In the original considerations, which antedate the placing of the tolls on the seaway, it was looked upon that the connecting channels, St. Marys, Detroit, and St. Clair Rivers, were a responsibility of the United States, whereas the work in the Welland Canal and also on the St. Lawrence River was a responsibility of the Canadians.

In other words, the present 25-foot Welland Canal was entirely paid for by Canada, and more or less that division was made. We took care of the connecting channels. They took care of the Welland Canal and the St. Lawrence. Of course, now the St. Lawrence and the Welland are going under tolls, and the picture is slightly changed.

Mr. JENSEN. Will you point out the Sault Ste. Marie locks?

General BERRIGAN. Right here [indicating], Sault Ste. Marie.

Mr. JENSEN. I have been told more tonnage goes through those locks a year than any other locks in the world; is that correct?

General BERRIGAN. It is no longer true. Suez, with its petroleum traffic—of course, it has a bad year this year—but Suez has passed the Soo in tonnage, although the tonnage from the Soo in 1953 was in the order of 130 million tons, which is probably in excess of the last 10 years on the Suez, but, since the increase of the oil traffic out of the Middle East through the Suez, it has increased its tonnage.

Mr. JENSEN. That is due mostly to the ore that goes through the locks?

General BERRIGAN. Mostly ore downbound; 80 million to 90 million tons a year.

Mr. JENSEN. Is the shipment of ore through the locks decreasing or increasing in recent years?

General BERRIGAN. 1953 was a very good year. In 1954 they had some big stockpiles and they did not ship very much; in 1955 it was increased; 1956 would have been a top year except for the fact we had a shipping strike for 2 months for United States Steel and 1 month for the other shippers right in the middle of the shipping season, which reduced it from 8 months to 6 or 7 months.

Mr. JENSEN. Do they pay any toll to go through those locks?

General BERRIGAN. No, sir.

Mr. JENSEN. They get a free ride. These water-transportation outfits get a free ride every place, at all the taxpayers' expense. That is all, Mr. Chairman.

CURRENT STATUS OF PROJECT

Mr. TABER. What is the status of this job now? You have had something like $5 million toward the $135 million total cost.

General BERRIGAN. We awarded continuing contracts for $22 million worth of work, and we have advertised for bids for about $15 million. In other words, when we open bids in early June, we should have something in the order of $35 million worth under contract.

As the summer goes on, we will put additional items under contract. It would be desirable to complete this in 1959, but there is just too much work to be done in the time remaining.

Mr. TABER. But that $36 million is not going to cover the whole job.

General BERRIGAN. It is $135,800,000 for the whole job. This $36 million is the key to the job. This is making the 1-way, 21-foot, upbound channels 27 feet. The rest of the system is 25 feet.

Mr. Taber. Thank you.

CANADIAN INTEREST IN PROJECT

Mr. KIRWAN. There is no danger of this infringing on our friendship with Canada? It looks like we are giving them something, like the rest of the world, and when we do we usually lose their friendship. They are charging us a toll for the Welland Canal, are they not?

General BERRIGAN. Not yet, sir.

Mr. KIRWAN. They will, though?

General BERRIGAN. They have included it in the seaway and they are spending something over $10 million improving it.

Mr. KIRWAN. But the point is they expect to charge a toll on the Welland Canal, which is their project.

General BERRIGAN. I believe so. The seaway includes the Welland Canal.

Mr. KIRWAN. We expect to pay a toll on their canal. We are going to spend $135 million to improve these channels that they will use free of charge. We are giving them something. I just wanted to be sure that is not going to harm our friendship with them as it has so frequently when we have given other countries something for nothing.

General BERRIGAN. I do not believe so.

Mr. KIRWAN. I am glad that you do not think that they also will react that way.

HARRISVILLE HARBOR

We will move on to Harrisville Harbor, Mich.

Insert pages 31 and 32 for the record.

(The justifications referred to follow:)

HARRISVILLE HARBOR, MICHIGAN

(Continuing)

Location.—Harrisville Harbor, Mich., is located on the northwest shore of Lake Huron about 20 miles north of Oscoda and 30 miles south of Alpena, Mich.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—The benefits are based on considerations of safety for navigation. Conditions are such as to make impracticable a firm monetary evaluation of the benefits.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$1,310,000	
Estimated non-Federal cost	159,500	
Cash contribution	129,500	
Other costs	30,000	
Total estimated project cost	1,469,500	
Appropriation to June 30, 1956	22,000	
Appropriation for fiscal year 1957	260,000	
Appropriation to date	282,000	22
Appropriation requested for fiscal year 1958	170,000	34
Balance to complete after fiscal year 1958	858,000	

PHYSICAL DATA

Channels: Dredge harbor basin 10 feet deep over an area of about 16 acres with a 12-foot entrance channel.
Breakwaters: Construct north breakwater 355 feet, construct south breakwater, 1,960 feet.
Status: (January 1, 1957): Construction, not started.
Completion schedule: May 1959.

JUSTIFICATION

Harrisville Harbor, Mich. is one of a chain of harbors of refuge on the Great Lakes for light-craft vessels. When completed, the harbors in this chain will be at intervals of 25 to 30 miles around the United States shoreline of the Great Lakes. When completed, this harbor will provide an unbroken chain of harbors of refuge from Port Huron, Mich. at the southern end of Lake Huron to Alpena (Thunder Bay).

Fiscal year 1958.—The $170,000 requested for fiscal year 1958 will permit initiation of construction on the south breakwater.

Non-Federal costs.—The cost to local interests is $159,500 of which the cash contribution is $129,500, and lands and terminal facilities are $30,000.

Status of local cooperation.—Assurances of local cooperation have been provided by the State waterways commission and were approved by the Assistant Secretary of the Army on March 22, 1948. The Michigan State Waterways Commission has provided the required cash contribution of $129,500. A harbor committee has been established at Harrisville to regulate the use of the harbor, and in conjunction with the State waterways commission, this committee is preparing preliminary plans for a public wharf, the furnishing of construction and maintenance easements and release from damages.

Comparison of Federal cost estimate.—The current Federal cost estimate of $1,310,000 is an increase of $80,000 over the latest estimate ($1,230,000) submitted to Congress due to change in price level.

Mr. KIRWAN. This is another project that was put in by the Senate last year. It looks like a simple project, but construction had not begun by January 1, 1957. Has it begun now?

General BERRIGAN. No, sir.

Mr. KIRWAN. I notice you are recommending a reduction from $170,000 to $100,000 in the 1958 request. Is this because all of the 1957 appropriation will not be obligated by the end of the year?

General BERRIGAN. Yes, sir. We will have $254,000 of 1957 funds both unobligated and unexpended.

Mr. KIRWAN. This is justified as a harbor of refuge. How far is it between the harbors at this part of Lake Huron?

General BERRIGAN. The harbors of refuge are about 30 miles apart on Lake Huron.

Mr. KIRWAN. From what I understand of this project, it is a worthy project, is it not?

General BERRIGAN. Yes, sir; I think so.

Mr. KIRWAN. I have seen a lot of projects over the country in the past year. They are building a lot of small harbors. I think this one is well needed up there. It is a bad place up in there when it gets rough, and there should be small harbors so that it is safe to be on the lake with small boats.

General BERRIGAN. Without this, you have really 25 miles to go if you get halfway between Oscoda and Alpena.

Mr. KIRWAN. I think it is a good project and not too much money.

Mr. BOLAND. What has been the experience in this area with regard to emergencies or tragedies?

General BERRIGAN. The people just do not go out in that area. Sometimes the people coming out of the St. Clair River sort of follow around the Canadian side. It is a safer route than coming around on this side [indicating] which would be the shorter and logical route.

You can find places, and you can see it is more protected going through Georgian Bay.

Mr. BOLAND. That is all.

Mr. TABER. How far will you get on what money is available now, and what is asked for at this time? How much is asked for now?

General BERRIGAN. $100,000. We are going to buy steel for the breakwater, and also to award a contract, so that when the steel is delivered there is a contractor there to receive it.

The delivery of the steel sheet piling is considered on many of these projects.

Mr. TABER. Who makes the local contribution?

General BERRIGAN. The Michigan Waterways Commission. They have already made the contribution.

Mr. TABER. When do you expect to get started?

General BERRIGAN. We will probably award the construction contract sometime next spring. We are still studying to determine whether a rubble-mound breakwater or a steel sheet pile breakwater will be more economical. They are reasonably close, and we are trying to determine which is the better.

Mr. TABER. That is all.

SAGINAW RIVER

Mr. KIRWAN. The next project is the Saginaw River, Mich.

Pages 36 and 37 for the record.

(The material is as follows:)

SAGINAW RIVER, MICH.

(New start)

Location.—Saginaw River is formed by the union of the Tittabawassee and Shiawassee Rivers, is about 22 miles long, and flows in a northerly direction from Saginaw, Mich., to its outlet in Saginaw Bay, Lake Huron.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—1.48 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost:		
Corps of Engineers	$5,680,000	
U. S. Coast Guard	38,000	
Estimated non-Federal cost	901,000	
Cash contribution	0	
Other costs	901,000	
Total estimated project cost	6,619,000	
Appropriation to June 30, 1956	0	
Appropriation for fiscal year 1957	50,000	
Appropriations to date	50,000	1
Appropriations requested for fiscal year 1958	600,000	11
Balance to complete after fiscal year 1958	5,030,000	

PHYSICAL DATA

Channels: Dredge new entrance channel 24 feet deep, 350 feet wide. Deepen existing river channels; 24 feet deep from mouth of river to Detroit & Mackinac Railway bridge, 22 feet deep from Detroit & Mackinac Railway bridge to Sixth Street in Saginaw.

Turning basins: Dredge turning basins to 20 feet; Carrollton turning basin about 4 acres, Essexville turning basin about 11.5 acres.

Status: (January 1, 1957): New start.

Completion schedule:

Entrance channel, December 1960.

River channels, December 1961.

JUSTIFICATION

The continued expansion of industry in the Saginaw Valley, accompanied by further enlargement of steam powerplants, results in the need for increasing transportation facilities. Deepening of present channels and construction of additional mooring and turning basins will open the harbor to the larger boats now plying the Great Lakes; will allow operators to load vessels to full draft; and will reduce damages due to groundings. Large savings in transportation costs and increased ease and safety to navigation will result.

Fiscal year 1958.—The $600,000 requested for fiscal year 1958 will be applied to:

Initiation of dredging entrance channel	$560,000
Engineering and design	14,000
Supervision and administration	26,000
Total	600,000

COMPLETED MODIFICATIONS

Under the 1910, 1930, 1937, and 1938 River and Harbor Acts, the river has been dredged to present depths of 20 and 21 feet to the mouth and to 21 feet in the bay at an estimated cost of $2,082,000.

REMAINING MODIFICATIONS

None.

Non-Federal costs.—The cost to local interests is $901,000, of which $32,000 is for lands and easements and $869,000 for alterations to existing utilities and bridges.

Status of local cooperation.—Local interests have informally indicated their willingness to furnish the required local cooperation.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,680,000 is an increase of $290,000 over the latest estimate ($5,390,000) submitted to Congress. The increase is due primarily to price level change.

Mr. KIRWAN. Do you have any specific facts and figures on the expansion of industry in the Saginaw Valley since World War II?

General BERRIGAN. I will have to supply that.

Mr. KIRWAN. Supply that for the record.

(The information requested was supplied as follows:)

Expansion factors	Percent increase 1947 to 1954	1954 total
Number of shipments	17.3	231
Number of employees	21.3	26,860
Value added by manufacturing	107.3	$238,000,000
Capital expenditures	221.9	$31,600,000

Saginaw was second among the eight industrial areas in Michigan in percentages of employee increases, manufacturing value increases, and capital expenditure increases for the above period.

Mr. KIRWAN. Has shipping handled by this channel increased in recent years?

General BERRIGAN. Yes, sir. The big increase occurred in 1955 when it was 4½ million tons. In the period 1951 to 1954 it fluctuated between 3.6 million to 3.9 million tons.

Mr. KIRWAN. It picked up about a million tons?

General BERRIGAN. Yes, sir.

Mr. KIRWAN. I notice the justifications mention that this project will reduce damages due to groundings. How frequently do damaging groundings occur now?

General BERRIGAN. I will have to supply that.

(The information requested was supplied as follows:)

A study during the 7-year period from 1942 to 1948 revealed that groundings causing major damage occur about 2 times per year. The damages average about $20,000 per grounding.

Mr. KIRWAN. What is the reason for your recommendation that the request be reduced from $600,000 to $475,000?

General BERRIGAN. Because we will not have our preconstruction work finished as soon as we expected to.

Mr. KIRWAN. What are the requirements for local cooperation? Are there any doubts about their being complied with?

General BERRIGAN. The city of Saginaw and the Michigan Waterways Commission have both stated they are willing to furnish the required assurances of local cooperation.

Mr. KIRWAN. Good.

Mr. BOLAND. Was this project budgeted in 1957, General?

General BERRIGAN. We had $50,000 for advance planning.

Mr. BOLAND. And was that recommended by the Bureau of the Budget or was it put in on the floor of the House or Senate?

General BERRIGAN. I do not remember.

Mr. BOLAND. When you get the answer will you furnish for the record whether or not the Bureau of the Budget recommended this project in fiscal 1957.

General BERRIGAN. Yes, sir.

(The information requested was supplied as follows:)

The $50,000 for planning was included in the President's budget for fiscal year 1957.

Mr. TABER. Why do you start a project in that neighborhood with a depth of from 20 to 24 feet when the tonnage the St. Lawrence waterway would provide would be probably carried in ships that would draw 25 feet?

Colonel NAUMAN. The economic justification for the Saginaw River improvement is largely based on coal tonnage shipped from Toledo and carried in vessels of shallower drafts; 24 feet is the optimum depth that could be justified economically based on the commerce going into Saginaw and the commerce in prospect.

Mr. TABER. That is all.

ST. MARYS RIVER BRIDGE

Mr. KIRWAN. The next project is St. Marys River Bridge, Michigan. Pages 40 and 41 for the record.

(The material is as follows:)

ST. MARYS RIVER, MICHIGAN (IMPROVEMENT OF SOUTH CANAL)

(Continuing)

Location.—The South Canal, upper St. Marys River, Mich. is the upper approach to the MacArthur and Poe Locks.

Authorization.—March 2, 1945 Rivers and Harbors Act (H. D. 679/78/2) and Public Law 663, 84th Congress, 2d session.

Benefit-cost ratio.—The benefits are based on considerations of safety for navigation. Conditions are such as to make impracticable a firm monetary evaluation of the benefits.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$3,985,000	
Estimated non-Federal cost	295,000	
Cash contribution	0	
Other costs	295,000	
Total estimated project cost	4,280,000	
Appropriations to June 30, 1956	379,000	
Appropriations for fiscal year 1957	0	
Appropriations to date	379,000	9
Appropriations requested for fiscal year 1958	500,000	22
Balance to complete after fiscal year 1958	3,106,000	

PHYSICAL DATA

Channels: Remove Bridge Island.
Relocations: Construct new lift bridge over South Canal.
Status (January 1, 1957) and completion schedule:
Remove Bridge Island; September 1959.
Construct new lift bridge; April 1959.

JUSTIFICATION

The channels and locks in the St. Marys River are a part of the connecting channels of the Great Lakes which permit deep draft commerce between the upper and lower lakes. The annual commerce for the St. Marys River has averaged about 107 million tons, in the past 10 years and consisted largely of iron ore, coal, stone, and grain. The free and continuous movement of these commodities is essential to the Nation's defense and economy. Of prime importance is the South Canal which is the upper approach to the MacArthur and Poe locks. This canal is crossed by a movable swing span which pivots on Bridge Island. This island divides the South Canal, which is 288 feet wide at this point, into 2 channels, 107 feet and 101 feet wide. Maneuvering is difficult due to cross currents at the intake of the adjacent Carbide Power Co. power canal and the small clearance at the island. Currents set up by filling of the MacArthur and Poe locks and northwesterly winds make passage more hazardous. The upper approach to the MacArthur and Poe locks could be blocked by a vessel sinking after striking Bridge Island, thus preventing the loaded downbound passage of the larger vessels,

as only the MacArthur lock has adequate depth over the sills to handle such vessels loaded to maximum permissible draft. The improvement of South Canal is necessary to provide increased safety for navigation.

Fiscal year 1958.—The $500,000 requested for fiscal year 1958 will be applied to construction of the bridge.

Non-Federal costs.—The estimated cost to the bridge owner for the reconstruction of the bridge over the south canal is $295,000.

Status of local cooperation.—Local cooperation is not involved. Under Public Law 663 approved July 9, 1956, however, the Secretary of the Army is authorized to accomplish alteration of the existing swing bridge under an agreement with the bridge owners. Negotiations with the bridge company on the agreement and apportionment of cost have been completed.

Comparison of Federal cost estimate.—The current Federal cost estimate of $3,985,000 is an increase of $673,000 over the latest estimate ($3,312,000) submitted to Congress. The total change is due primarily to a price level increase of $435,000 and to an increase of $186,000 resulting from a change in authorization to permit apportionment of costs in accordance with section 6 of the Truman-Hobbs Act.

Mr. KIRWAN. This project has had an unusual and a little stormy history. For the record, and to bring us up to date, would you recite the history of the authorization and appropriations for this project?

General BERRIGAN. This project was authorized several years ago under an authorization which included an apportionment already made under Truman-Hobbs of the figure to be paid by the railroad. The railroad objected to paying the figure because as time went on, if you reapportion it under Truman-Hobbs, they would have paid less. There was a modification of the authorization to place it under Truman-Hobbs and the railroad is willing to go ahead with paying its share.

Mr. KIRWAN. The act has been amended?

General BERRIGAN. Yes, to put it under Truman-Hobbs rather than have it apportioned under Truman-Hobbs as it would have applied several years ago.

Mr. KIRWAN. Are there any special problems connected with this project now?

General BERRIGAN. No, sir. We have the bridge designed. We actually advertised for bids on the railroad bridge on the 29th of March and the bids will be opened on May 9.

POSSIBLE REVISION OF TRUMAN-HOBBS ACT

Mr. KIRWAN. You will remember we had quite a bit of discussion last year on the Truman-Hobbs formula for division of the costs for bridge replacements. This appears starting on page 144 of last year's hearings. It was brought out that the Corps of Engineers had recommended that this law be amended. What is the current status of the recommendation? Is the corps continuing to push for a revision?

General BERRIGAN. The answer is "No" to that general question on the Truman-Hobbs revision. We are not pressing for it at the present time.

WHITEFISH POINT HARBOR

Mr. KIRWAN. We will take up Whitefish Point Harbor, Mich.

Pages 45 and 46 for the record.

(The material is as follows:)

WHITEFISH POINT HARBOR, MICH.

(Continuing)

Location.—Whitefish Point Harbor, Mich., is located at the eastern end of Lake Superior approximately 40 miles northeast of Sault Ste. Marie, Mich.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—The benefits are based on considerations of safety for navigation. Conditions are such as to make impracticable a firm monetary evaluation of the benefits.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost:		
(Corps of Engineers)	709,000	
(U. S. Coast Guard)	8,500	
Estimated non-Federal cost	20,000	
Cash contribution	0	
Other costs	20,000	
Total estimated project cost	737,500	
Appropriations to June 30, 1956	9,000	
Appropriations for fiscal year 1957	100,000	
Appropriations to date	109,000	15
Appropriations requested for fiscal year 1958	380,000	69
Balance to complete after fiscal year 1958	220,000	

PHYSICAL DATA

Channels: Dredge harbor basin 12 feet deep over an area of about 5 acres.
Breakwaters: Extend north breakwater, 586 feet; construct south breakwater, 525 feet.

Status: January 1, 1957

	Percent	Completion schedule
Channels	21	Oct. 30, 1958
Breakwaters	0	Oct. 30, 1958
Entire project	0	Oct. 30, 1958

JUSTIFICATION

Whitefish Point Harbor, Mich. is one of a chain of harbors of refuge on the Great Lakes for light-draft vessels. When completed, the harbors in this chain will be at intervals of 25 to 30 miles around the United States shoreline of the Great Lakes. Whitefish Point Harbor is strategically located in that it is the first of such harbors west of Sault Ste. Marie, Mich. at the eastern end of Lake Superior. When completed, Whitefish Point Harbor will reduce the hazard to life and property for light-draft vessels operating in Whitefish Bay and vicinity.

Fiscal year 1958.—The $380,000 requested for fiscal year 1958 will be applied as follows:

Continue steel supply contract	$94,400
Initiate breakwater construction	251,600
Engineering and design	2,000
Supervision and administration	32,000

The above funds are required to initiate construction upon receipt of steel and to permit early completion of the project.

Non-Federal costs.—The cost to local interests is $20,000 of which $19,000 is for terminal construction and $1,000 for lands and easements.

Status of local cooperation.—Assurances of local cooperation were furnished by the Michigan State Waterways Commission and were approved by the Assistant Secretary of the Army on March 22, 1948. No cash contribution by local interests is required. The Michigan State Waterways Commission has recently indicated readiness to proceed, when required, toward fulfillment of local coopera-

tion, including the construction of a public wharf, the forming of a local port commission and the furnishing of lands, easements, and rights-of-way.

Comparison of Federal cost estimate.—The current estimate of $709,000 is an increase of $315,000 over the latest estimate ($394,000) submitted to Congress. The increase is due to reanalysis of design requirements and unit costs based on more recent information ($291,300) and to increased price levels ($23,700).

Mr. KIRWAN. This is another project that was added by the Senate last year. I notice that some construction had already been done by the 1st of January. Is work progressing satisfactorily?

General BERRIGAN. Yes, sir. We have done some dredging in there to enable the fishermen to use their harbor.

Mr. KIRWAN. What is the reason for your recommending a reduction from $380,000 to $130,000 in your request for 1958 funds?

General BERRIGAN. Delay in steel sheet piling.

Mr. KIRWAN. This is justified as a harbor of refuge. How far is it between harbors in this area of Lake Superior?

General BERRIGAN. It is 40 miles northeast of Sault Ste. Marie, and 49 miles east of Grand Marais, Mich.

Mr. KIRWAN. It is 40 miles from this point to the closest harbor?

General BERRIGAN. Yes.

Mr. KIRWAN. There has been an increase of 80 percent in the estimated cost of this project from the last estimate submitted to Congress—from $394,000 to $709,000. What is the explanation of that? Is this a feasible project considering the greatly increased cost?

General BERRIGAN. Yes, sir. Aside from its value as a harbor of refuge it has a 1.29-to-1 benefit-cost ratio.

Mr. JENSEN. What is the main purpose of this project?

General BERRIGAN. It is a harbor of refuge and it is also a fishing harbor. It is a base for commercial fishing as well as a harbor of refuge. It is the first harbor you get to when you come out of the Sault.

Mr. TABER. Is that depth enough for navigation?

General BERRIGAN. Yes. We have done the dredging for the fishermen so that they could actually use it. Lake Superior is as low as it has been since 1949 so that the shoaling interfered seriously with commercial fishing at this point.

Mr. TABER. Do you have a contract underway?

General BERRIGAN. No, sir; not for the main work. The dredging was done by Government plant and hired labor. The next thing will be the awarding of a contract for the steel sheet piling.

Mr. TABER. That is all.

BARCELONA HARBOR

Mr. KIRWAN. We will go on to the next project which is Barcelona Harbor, N. Y. Pages 49, 50, and 51 for the record.

(The material is as follows:)

BARCELONA HARBOR, N. Y.

(Continuing)

Location.—The harbor is located on the south shore of Lake Erie, 29 miles east of Erie, Pa., and 17 miles west of Dunkirk, N. Y.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—1.16 to 1.00 (exclusive of unevaluated benefits as a harbor of refuge for light-draft craft).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost (Corps of Engineers)	$1,122,000	
Estimated Federal cost (U. S. Coast Guard)	6,000	
Estimated non-Federal cost	55,300	
Cash contribution	7,500	
Other costs	47,800	
Total estimated project cost	1,183,300	
Appropriations to June 30, 1956	16,000	
Appropriations for fiscal year 1957	250,000	
Appropriations to date	266,000	24
Appropriations requested for fiscal year 1958	210,000	42
Balance to complete after fiscal year 1958	646,000	

PHYSICAL DATA

Channels:

Entrance channel: 10 feet deep, 100 feet wide, 160 feet long.

Harbor basin: 8 feet deep, irregular shaped varying from 100 to 350 feet wide, 800 feet long.

Breakwaters:

West: Cellular steel sheet pile breakwater, 8 feet above low-water datum and 794 feet long with a steel sheet pile wall, 156 feet long, connecting the inner end of the breakwater with the shore.

East: Cellular steel sheet pile detached breakwater, 6 feet above low-water datum and 890 feet long.

Status (January 1, 1957):	*Completion schedule*
Entrance channel and Harbor basin, not started	June 1959.
West and east breakwaters—construction not started; supply contract for steel sheet piling has been awarded.	September 1958.
Entire project	June 1959.

JUSTIFICATION

The Barcelona Harbor project is one of a series of shallow-draft harbors on the Great Lakes authorized as harbors of refuge for small craft. The reach of shoreline between Erie, Pa., and Dunkirk, N. Y., is characterized by its general regularity, shallow depths that extend far lakeward and the absence of natural harbors of refuge. Barcelona is located between the two existing federally improved harbors at Erie, Pa., and Dunkirk, N. Y. The distance between these harbors is 46 miles with Barcelona located 29 miles east of Erie and 17 miles west of Dunkirk.

The greatest hazard to light draft vessels cruising Lake Erie result from the sudden storms. Construction of a harbor of refuge at Barcelona will stimulate the existing commercial fishing industry and local recreational boating which are presently handicapped by lack of a protected harbor. Currently, about 400 tons of fish are brought into the harbor by the commercial fishermen now based at the harbor.

Fiscal year 1958.—The requested amount of $210,000 for fiscal year 1958 will be applied to—

Initiate continuing contract for construction of breakwaters and channel dredging. Funds requested will permit completion of the west breakwater	$182,000
Supervision and administration costs	28,000
Total	210,000

Non-Federal costs.—The cost to local interest of complying with the requirements of local cooperation, as set forth in the authorizing legislation consists of a cash contribution of $7,500, payments of $3,200 for lands and damages and costs of $44,600 for construction of a public wharf, for a total of $55,300.

Local interests have also constructed wharves, mooring facilities, and provided other improvements in order to facilitate the handling of fish and to accommodate present recreational boating. The total costs to local interests for these facilities are unknown.

Status of local cooperation.—The board of supervisors of the town of Westfield furnished the assurances of local cooperation in 1949 and provided the cash contribution in August 1952.

Local interests also have contacted land owners in the vicinity with a view toward acquiring the necessary property. However, no firm actions on this feature nor on the remaining assurances have been taken pending the result of model studies presently underway and the subsequent determination of the exact project layout.

Comparison of Federal cost estimates.—The current Federal cost estimate of $1,122,000 is a net increase of $52,000 over the latest estimate ($1,070,000) submitted to Congress, due primarily to price level changes.

Mr. KIRWAN. Construction funds were requested and appropriated for 1957 for this project, but I notice from the justifications that the project layout still has not been firmed up pending model studies. This seems a little unusual. Tell us about it.

General BERRIGAN. This was more or less designed and engineered based on comparison with another harbor. We have now felt we should run a special model study on this to be sure we have the proper alinement of breakwaters and not depend on a comparison.

Mr. KIRWAN. The benefit-cost ratio is only 1.16 to 1. Before the results of the model studies are complete, can you be sure it will not drop below 1 to 1?

General BERRIGAN. I feel quite certain that the result of the model study will not increase the length of the breakwater or increase its cost. It might change the alinement.

Mr. KIRWAN. From page 51 of the justifications I gain the impression that there is some doubt about the local cooperation. Is that right?

General BERRIGAN. No, sir. I do not think there is any doubt about the local cooperation. They are waiting to see how we will aline the breakwaters to determine where they will place the public wall, but I think there is no doubt they are ready to do their part.

Mr. BOLAND. Are you ready to go ahead with the breakwaters in fiscal 1958?

General BERRIGAN. I believe so. We have steel under contract.

OSWEGO HARBOR

Mr. KIRWAN. The next project is Oswego Harbor, N. Y.

Pages 55 through 58 for the record.

(The material is as follows:)

OSWEGO HARBOR, N. Y. (DETACHED BREAKWATER AND SHOAL REMOVAL)

(Continuing)

Location.—On the south shore of Lake Ontario, 59 miles easterly from Rochester, N. Y.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—1.3 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost (Corps of Engineers)	$2,685,000	
Estimated Federal cost (U. S. Coast Guard)	5,800	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	2,690,800	
Appropriations to June 30, 1956	26,500	
Appropriations for fiscal year 1957	500,000	
Appropriations to date	526,500	20
Appropriations requested for fiscal year 1958	1,000,000	57
Balance to complete after fiscal year 1958	1,158,500	

PHYSICAL DATA

Detached breakwater:

Rubble-mound breakwater, 10 feet above low-water datum and 850 feet long.

Shoals:

Removal of shoals to 25 feet below low-water datum, shoals are located in 12 areas in the approach to the harbor entrance and are of varying dimensions.

Status (January 1, 1957)

	Completion schedule
Detached breakwater, not started	November 1958.
Removal of shoals, not started	June 1957.

JUSTIFICATION

The total waterborne commerce in 1955 was 4,361,000 tons consisting principally of receipt of grains and coal and export of coal to Canada.

Construction of the detached breakwater and removal of the shoals will provide protection to the existing terminal facilities within the harbor and will lessen the difficulties of vessel traffic. At present, during periods of storms or high winds, vessel operators experience delays in loading or unloading vessels, loss of cargo, and navigation difficulties in maneuvering to the various channels, slips, and entrances. The authorized improvements would lessen wave action within the harbor thereby producing tangible savings to vessel traffic, as well as intangible and unevaluated benefits from the increased safety and convenience provided.

Fiscal year 1958.—The requested amount of $1 million for fiscal year 1958 will be applied to:

Continuation of construction of the detached breakwater by continuing contract	$933,200
Supervision and administration	66,800
Total	1,000,000

COMPLETED MODIFICATIONS

Work completed consists of the outer west breakwater and widening the channel in Oswego River north of Seneca Street, all at a Federal cost of $1,496,000.

REMAINING MODIFICATIONS

The 1930 River and Harbor Act authorized the construction of arrowhead breakwaters; deepening the outer harbor between the arrowhead breakwaters, the west outer harbor east of the Delaware, Lackawanna & Western coal dock, and Oswego River to Seneca Street, all to 21 feet; and the west outer harbor west of the Delaware, Lackawanna & Western coal dock to 16 feet. This work is complete with the exception of a small triangular-shaped area in the outer harbor which remains to be dredged. The Federal cost of the completed work is $1,854,000 and the Federal cost of the work remaining to be done is $246,000.

The 1940 River and Harbor Act authorized closing the gap in the west breakwater and deepening the west outer harbor west of the Delaware, Lackawanna & Western Railroad coal dock to 21 feet. Closing of the gap has been accomplished, and a 250-foot wide strip through the west outer harbor, widened to provide a limited turning basin area at the westerly end, has been deepened to project depth of 21 feet at a total cost of $911,000. The remaining 150-foot wide strip has not been dredged and it is estimated that $1,713,000 will be required to complete the work as authorized by this modification.

The 1948 River and Harbor Act authorized dredging a channel and basin and construction of an east outer breakwater for establishment of an east outer harbor. No work has been done on this modification which is estimated to cost $12,600,000.

Non-Federal costs.—For the construction of the detached breakwater and the removal of shoals local interests are required to hold and save the United States free from damages due to construction and subsequent maintenance of the improvement.

Local interests have expended $100,000 for acquisition of lands for work previously completed under the project. Local interests also incurred costs of $230,000 for dock facilities and dredging the area between the project limit and bulkhead for the work authorized by the 1940 modification. It is estimated that local interests will expend about $180,000 additional when the remaining 150-foot wide strip in the west outer harbor is deepened to project depth.

Local interests are required by the 1948 act to construct a wharf, handling and storage facilities, and to dredge and maintain the area between project limit and wharf. It is estimated that the costs to local interests for this work will be $2,058,000, none of which has been accomplished to date.

Oswego River is part of the New York State Barge Canal system. The State of New York has expended a large sum for development of the canal and have provided two barge canal terminals in the harbor. Private interests have established docks, wharves, and handling facilities for coal and grain.

Status of local cooperation.—The Oswego Port Authority has furnished the required assurances to hold and save the United States free from damages that may result from construction and maintenance of the project.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2,685,000 is a net increase of $115,000 over the latest estimate ($2,570,000) submitted to Congress, due primarily to higher price levels.

Mr. KIRWAN. The justifications say work required of local interests will cost an estimated $2,058,000, but that none of it has been accomplished. Will Federal funds for construction be spent so long as this situation exists? What assurances are there that the local interests will carry out their part?

General BERRIGAN. The $2 million expenditure by local interests is not for this part of the project.

Mr. KIRWAN. The justifications say:

> Local interests are required by the 1948 act to construct a wharf, handling and storage facilities, and to dredge and maintain the area between project limit and wharf. It is estimated that the costs to local interests for this work will be $2,058,000, none of which has been accomplished to date.

General BERRIGAN. But we are not doing the work that is tied in with that local interest requirement.

Mr. KIRWAN. They are doing it themselves?

General BERRIGAN. No, sir. We are doing the work under the 1954 River and Harbor Act. We are doing the entrance, the removal of shoals in the approach to the entrance, and the detached breakwater. We will not do the part of the dredging connected with the local interest requirement under the 1948 act until we have assurances that the local interests will proceed with their part of the work required by that act.

Mr. KIRWAN. We have your recommended revision of the request for this project from $1 million to $400,000, but is there not considerable doubt that you will need even this much?

General BERRIGAN. No, sir; because we are starting the hired labor work on the shoals and we think we will get the contract for the detached breakwater underway.

ASHTABULA HARBOR

Mr. KIRWAN. The next project is Ashtabula Harbor, Ohio; pages 61, 62, and 63 for the record.

(The material is as follows:)

ASHTABULA HARBOR, OHIO (APPROACH CHANNEL AND TURNING BASIN IN EAST OUTER HARBOR)

(Continuing)

Location.—The harbor is located on the south shore of Lake Erie, 59 miles easterly from Cleveland, Ohio.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—3.5 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost (Corps of Engineers)	$4,720,000	
Estimated Federal cost (U. S. Coast Guard)	10,000	
Estimated non-Federal cost	4,020,000	
Cash contribution	0	
Other costs	4,020,000	
Total estimated project cost	8,750,000	
Appropriations to June 30, 1956	296,000	
Appropriations for fiscal year 1957	1,800,000	
Appropriations to date	2,096,000	44
Appropriations requested for fiscal year 1958	1,500,000	76
Balance to complete after fiscal year 1958	1,124,000	

PHYSICAL DATA

Channels:

Approach channel: 25 feet deep in soft material, 26 feet deep in hard material, 700 feet wide, 1,550 feet long.

Turning basin: 25 feet deep in soft material, 26 feet deep in hard material, 1,200 feet wide, 1,550 feet long.

Status (Jan. 1, 1957)

	Percent completed	Completion schedule
Approach channel and turning basin:		
Stage I	100	June 1956.
Stage II	2	November 1958.
Entire project	16	Do.

COMPLETED MODIFICATIONS

Work completed consists of an outer harbor of about 185 acres in area formed by a system of breakwaters comprising a west breakwater 7,780 feet long, an east breakwater 4,400 feet long; deepening the entrance channel to 28 feet between the breakwaters and to 25 feet through the outer harbor to the east inner breakwater and to 24 feet from this point to the mouth of Ashtabula River; a channel in Ashtabula River 24 feet deep from its mouth to 2,000 feet upstream, 18 feet deep upstream therefrom for about 2,400 feet and 16 feet deep upstream therefrom for

about 3,800 feet with a turning basin at the upstream end. The total cost for this completed work is $2,854,000.

REMAINING MODIFICATIONS

A modification of the project authorized by the 1945 River and Harbor Act provides for deepening the Ashtabula River Channel to 16 feet deep to a point 1,550 feet upstream of the turning basin. Another modification authorized by the 1937 River and Harbor Act provides for the removal of 250 feet of the inner east breakwater. Each of these modifications has been placed in a deferred status, and a restudy will be required before construction is undertaken.

Non-Federal costs.—The cost to local interests of complying with the requirements of local cooperation as set forth in the authorizing legislation for the approach channel and turning basin in the easterly part of the outer harbor is $4,020,000. This cost is entirely for the construction of the dock facilities and the dredging of the slips and access thereto from the basin.

Local interests also incurred costs of $519,000 in complying with requirements of local cooperation for previous work accomplished on the project.

The areas adjacent to the Federal project have been extensively developed, principally by the railroads for handling of iron ore and coal. Necessary docks, wharves, storage, unloading, and other handling facilities have been provided for which the overall development costs to local interests are unknown. The city of Ashtabula and other local interests have expended $1,367,000 for improvement of the Ashtabula River.

JUSTIFICATION

Ashtabula Harbor had 13,068,000 tons of waterborne commerce in 1955, consisting principally of receipt of 9,002,000 tons of iron ore, 339,000 tons of stone, and shipment of 3,517,000 tons of coal.

The approach channel and turning basin in the east outer harbor will permit large, self-unloading vessels to use the extensive dock and storage facilities currently under construction by local interests. Stage I of the project, which has been completed, provides a channel 150 feet wide, 25 feet deep, through the project area to the new docks of the Pinney Dock & Transport Co. This channel permits only the use of small bulk cargo carriers but has permitted inauguration of traffic to the new facilities.

Commerce of about 900,000 tons consisting of chemical limestone, fluxing stone, rock salt, and building materials will be received over the new docks from large vessels for the heavily industrialized area located in the east part of the city of Ashtabula.

The existing harbor facilities are inadequate for existing commerce because of insufficient docks and storage areas. The demands and requirements of the rapidly expanding local industry, especially those in the field of chemicals, for dockage and material storage far exceed the existing available dock facilities, which are now being used at full capacity.

Fiscal year 1958.—The requested amount of $1,500,000 for fiscal year 1958 will be applied to—

Continuation of dredging in the east outer harbor, by continuing contract	$1, 410, 000
Supervision and administration	90, 000
Total	1, 500, 000

Status of local cooperation.—The Council of the City of Ashtabula, Ohio, and the Pinney Dock & Transport Co., Ashtabula, Ohio, an Ohio corporation, have fulfilled all requirements of local cooperation with the exception of completion of some dock facilities which are now under construction.

Comparisons of Federal cost estimate.—The current Federal cost estimate (Corps of Engineers) of $4,720,000 is a decrease of $320,000 from the latest estimate ($5,040,000) submitted to Congress. This decrease includes a reduction in channel costs of $205,000 due to a reestimate based on bid prices received for a portion of the work and a reduction of $115,000 in the estimated cost for supervision and administration, based on cost experience for projects of similar scope and complexity.

Mr. KIRWAN. Any questions on Ashtabula Harbor?

TOLEDO HARBOR

Then we will proceed to Toledo Harbor, Ohio.
Pages 67 and 68 for the record.
(The material is as follows:)

TOLEDO HARBOR, OHIO (REMOVAL OF CENTER DIKE)

(Continuing)

Location.—Toledo Harbor Channel is located at the entrance to Maumee Bay at the westend of Lake Erie.
Authorization.—1954 River and Harbor Act.
Benefit-cost ratio.—1.9 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost:		
Corps of Engineers	$601,000	
U. S. Coast Guard	450,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	1,051,000	
Appropriation to June 30, 1956	0	
Appropriation for fiscal year 1957	380,000	
Appropriations to date	380,000	63
Appropriation requested for fiscal year 1958	221,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channels: Remove all materials in the center dike to a depth of 25 feet, 1,500 feet long and 135 feet wide.
Status (January 1, 1957): Not started.
Completion schedule: September 1957.

JUSTIFICATION

Toledo Harbor, Ohio, is one of the most important ports on the Great Lakes, handling large tonnages of coal, iron ore, petroleum, and petroleum products. The annual commerce for the past 10 years has averaged about 30 million tons. Of prime importance is the safety of vessels entering this harbor. The center dike near the entrance to the harbor is 1,500 feet long and divides the entrance into 2 channels each 300 feet wide. During periods of adverse weather conditions, such as wind and fog, the maneuvering of vessels through these narrow inbound and outbound sections of the entrance channel is accomplished with difficulty. Several accidents have occurred which resulted in damage and delays to the vessels involved. In addition to the increased safety of vessels entering or leaving the harbor, removal of the center dike will result in an annual savings of about $70,000 due to the prevention of damages to such vessels and losses of revenue by these vessels while undergoing repairs.
Fiscal year 1958.—The $221,000 requested for fiscal year 1958 will be used to complete this modification to the project.

COMPLETED MODIFICATIONS

Work completed consists of 3 modifications which provided a channel 25 feet deep from Lake Erie to the Fassett Street Bridge over the Maumee River, with a turning basin at the upper end 18 feet deep. The cost of the completed work is $5,100,000.

REMAINING MODIFICATIONS

A further modification in the 1950 River and Harbor Act provides for widening at the mouth of Maumee River opposite the Chesapeake & Ohio Railway docks

to a depth of 25 feet. Work has not been initiated on this modification which is estimated to cost $550,000.

Status of local cooperation.—Local interests are required to hold and save the United States free from damages. By letter dated August 17, 1956, the port commission of the city of Toledo was requested to furnish a resolution saving the Government from damage. The assurance of local cooperation is expected to be furnished prior to the scheduled start of work on removal of the dike.

Comparison of Federal cost estimate.—The current Federal cost estimate of $601,000 is an increase of $20,000 over the latest estimate ($581,000) submitted to Congress. The increase is due primarily to the rise in price levels.

Mr. KIRWAN. What has happened on this project that you are recommending a reduction in the request from $221,000 to $146,000?

General BERRIGAN. We got good bids and awarded the contract, and that is all we need to do the job.

Mr. KIRWAN. Very good.

Mr. TABER. How much is that?

Mr. KIRWAN. It is a drop from $221,000 to $146,000.

General BERRIGAN. A reduction of $75,000.

Mr. KIRWAN. Over 40 percent of the cost of this project is for Coast Guard facilities. Would you tell us about that?

General BERRIGAN. This dike was built way out in the Lake 4½ miles from the entrance with a lighthouse at each end to guide ships into the harbor. Now it has become a menace because it sits in the middle of the channel. The Coast Guard has to replace it with aids to navigation that will be safe. This is a big coal harbor.

Mr. KIRWAN. It is probably one of the biggest coal shipping harbors in the world?

General BERRIGAN. Yes.

Mr. KIRWAN. So I would think it is good to take the dike out if it is a hazard.

Mr. TABER. What is the tonnage handled in this harbor?

General BERRIGAN. In 1955, 35,724,000 tons, and about 30 million for most of the years before that.

Mr. TABER. That is all.

HOUGHTON-HANCOCK BRIDGE

Mr. KIRWAN. Next is the Houghton-Hancock Bridge, Michigan. Pages 71, 72, and 73 for the record.

(The material is as follows:)

HOUGHTON-HANCOCK BRIDGE, MICHIGAN

(Continuing)

Location.—Across Keweenaw Waterway between Houghton and Hancock, Mich.

Authorization.—Act of June 21, 1940 (Truman-Hobbs Act) as amended.

Benefit-cost ratio.—Not applicable.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$2,900,000	
Estimated non-Federal cost	4,500,000	
Cash contributions	0	
Other costs	4,500,000	
Total estimated project cost	7,400,000	
Appropriations to June 30, 1956	0	
Appropriations for fiscal year 1957	500,000	
Appropriations to date	500,000	17
Appropriations requested for fiscal year 1958	750,000	43
Balance to complete after fiscal year 1958	1,650,000	

PHYSICAL DATA

Bridge, type:
Vertical lift.
Horizontal clearance, 250 feet.
Vertical clearance, lowered, 3.7 feet above extreme high water and 7.4 feet above low water datum.
Vertical clearance, intermediate position, 31.7 feet above extreme high water and 35.4 feet above low water datum.
Vertical clearance, raised, 100 feet above extreme high water and 103.7 feet above low water datum.
Status (January 1, 1957): Construction not initiated.
Completion schedule: November 1958.

JUSTIFICATION

The Houghton-Hancock Bridge, a combination railroad and highway bridge owned solely by the Michigan State Highway Department, provides the only vehicular and rail access to the copper-mining area of the Keweenaw Peninsula of Michigan. This bridge spans the Keweenaw Waterway (Portage Lake) which provides an important shortcut as well as a sheltered route across the Keweenaw Peninsula for vessels plying Lake Superior. Commerce on the waterway averages some 600,000 tons annually with vessel trips averaging about 400 larger type ships and 500 smaller craft. Due to difficulties in navigating the swing bridge with 118-foot and 107-foot openings, delays to navigation result when ships anchor to await favorable conditions for passage or avoid the waterway entirely, even during stormy weather when passage through the waterway would be advantageous. About 100 large vessels pass the Keweenaw Peninsula each day and in an average year they are exposed to 23 days of storm conditions. Accordingly, about 2,300 large vessels per year or about 1,900 more than at present, would have good reason to use the waterway. It is estimated that the time saved through use of the waterway by these 1,900 vessels represents an increase in earning capacity of $380,000 per year.

The bridge has been determined to be obstructive to navigation and under the provisions of the Truman-Hobbs Act, the Secretary of the Army in March 1955 issued a notice to alter the bridge. The bridge provides important highway and rail access to the people and industry of Michigan's copper country and crosses a very important waterway artery. To avoid costly delays to navigation, reconstruction of the obstructive bridge should be completed as soon as possible. The amount requested is considered the minimum required to pay the Federal share of the costs of construction and is considerably less than the proportionate share of total expenditures for fiscal year 1958 as estimated by the bridge owner.

Fiscal year 1958.—The sum of $750,000 requested for fiscal year 1958 will be used to continue payment of the United States share of the cost of construction on a schedule which provides for completion of the bridge alteration in November 1958.

Non-Federal costs:

The cost to the bridge owners of complying with the requirements of the Truman-Hobbs Act is estimated at $4,500,000 and will be applied toward the cost of the bridge alteration.

Status of local cooperation.—Under the provisions of the Truman-Hobbs Act, the bridge owner has undertaken acquisition of needed rights-of-way, is preparing to advertise for contracts for substructure and structural steel and machinery, and has awarded a supply contract for H-piling.

Comparison of Federal cost estimates.—The current Federal cost estimate of $2,900,000 is an increase of $1,228,000 over the latest estimate ($1,672,000) submitted to Congress. This increase in the Federal share of cost results primarily from the total increase for the bridge alterations from $5 million to $7,300,000 which is based on more detailed engineering and design studies by the bridge owner.

Mr. KIRWAN. What is the reason for your recommendation that the 1958 request be reduced from $750,000 to $300,000?

General BERRIGAN. The delay in placing the work under contract. It is up for bids now?

Mr. KIRWAN. It is up for bids now?

General BERRIGAN. Yes, sir.

Mr. KIRWAN. Last year the Federal cost of this project was estimated at $1,672,000. Now it is $2,900,000. That is an increase of just about 75 percent. What is the explanation for such a terrific increase?

General BERRIGAN. Well, the cost of this project—which of course is shared by the State of Michigan—the original estimate, which was very preliminary, was about $5 million. Then they got the usual notice and requirement to submit plans in 90 days. The plans indicated that the preliminary estimate had not included enough tonnage of steel for the bridge, but it was not a good estimate in that they did not have enough time to go into the approaches and did not include enough for engineering and contingencies, so it went up from $5 million to $10 million.

Mr. KIRWAN. You knew it was going to be higher but you did not know it would go that high?

General BERRIGAN. That was pretty hard to estimate.

Mr. KIRWAN. It was pretty hard to estimate, but you knew it was going to be a higher cost than it started out to be?

General BERRIGAN. Yes, sir.

KALAMAZOO RIVER AT BATTLE CREEK, MICH.

Mr. KIRWAN. If there are no questions we will take up the Kalamazoo River at Battle Creek, Mich. Pages 76, 77, and 78 for the record.

(The material is as follows:)

KALAMAZOO RIVER, MICH., BATTLE CREEK AND VICINITY

(Continuing)

Location.—The Kalamazoo River rises in the southern part of the Lower Peninsula of Michigan, flows northwesterly about 185 miles, and empties into Lake Michigan about 2 miles downstream from the village of Saugatuck. Battle Creek joins the Kalamazoo River in the city of Battle Creek, about 108 miles above its mouth.

Authorization.—1954 Flood Control Act.

Benefit-cost ratio.—1.56 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$5,453,000	
Estimated non-Federal cost	2,938,000	
Cash contribution	137,000	
Other costs	2,801,000	
Total estimated project cost	8,391,000	
Appropriations to June 30, 1956	85,000	
Appropriations for fiscal year 1957	500,000	
Appropriations to date	585,000	11
Appropriations requested for fiscal year 1958	2,000,000	47
Balance to complete after fiscal year 1958	2,868,000	

PHYSICAL DATA

Levees: Construct low earth levees on both banks of Kalamazoo River upstream from concrete paved cutoff channel, length 1,600 feet.

Relocations: Construct two new railroad bridges. Reinforce or protect substructures on 2 railroad bridges and 13 highway bridges.

Channels:

Section C improvement, Battle Creek	1.7
Section A improvement, Kalamazoo River	5.0
Section B improvement, cutoff section	.9
Total	7.6

(Cutoff channel, 0.7 mile, paved with concrete; 1.9 miles of improved channels paved with riprap.)

Status (Jan. 1, 1957): Not started.

Completion schedule:

Relocations, November 1958.
Channels, June 1959.
Levees, September 1958.
Entire project, June 1959.

JUSTIFICATION

Battle Creek and vicinity has experienced numerous floods causing considerable property damage. The maximum flood of record was in March 1904 with floods of slightly less volume occurring in March 1908, April 1947, March 1918, March 1887, and March 1948, in that decreasing order of peak discharge. A historian reports floods in 1854, 1864, 1868, and 1869 greater in magnitude than the floods of 1904 and 1908. Lesser floods have occurred at more frequent intervals with minor flooding in the lower areas occurring almost annually. With the exception of the flood in 1864, all the major floods noted have occurred in the spring as a result of heavy spring rains on snow-covered ground in fairly saturated condition and at a time when stream stages were already rising. The major flooding is almost entirely within the city limits of Battle Creek, except for low vacant lands downstream from the city. Floods cover a large area through the downtown business, industrial, and adjacent residential area. Based on 1956 price level, the estimated flood damages for 1904, 1947 and 1948 floods would be as follows: 1904, $2 million; 1947, $1,300,000; and 1948, $65,000. Average annual flood damages on a current price basis are estimated at $489,000.

Fiscal year 1958.—The requested amount of $2 million will be applied to:

Initiate and complete reinforcing foundations of 3 highway bridges	$381,000
Initiate construction of New York Central and Grand Trunk Western joint use railroad bridge	446,000
Initiate construction of New York Central main line railroad bridge	169,000
Complete dredging of Kalamazoo River (20th St. to downstream end of project)	419,500
Initiate dredging of Kalamazoo River (Confluence of Kalamazoo River Cutoff to 20th St.)	457,300
Engineering and design	26,000
Supervision and administration	101,200
Total	2,000,000

The above work is necessary to insure an orderly and economical rate of progress toward scheduled completion. Construction at the lower end of the project will be completed prior to upstream improvements to provide early benefits and a usable increment of the project.

Non-Federal cost.—The cost to local interests in connection with construction of the authorized project is estimated at $2,938,000 broken down as follows:

Cash contribution (for land enhancement)	$137, 000
Construction of bridges	805, 000
Relocation of utilities, sewers, etc	513, 000
Lands and easements	1, 436, 000
Building removal	15, 000
Channel construction	32, 000
Total	2, 938, 000

In addition, local interests are required to maintain and operate all the works including supervision of maintenance and operation of the existing Monroe Street Dam on the Kalamazoo River at an estimated cost of $21,000 annually.

Status of local cooperation.—By resolution dated October 3, 1956, the Commission of the City of Battle Creek furnished the assurances of local cooperation for the entire project. The work of obtaining lands, easements, and rights-of-way for the initial stage of the project is underway and is 25 percent completed. It is anticipated that rights-of-way for work scheduled for fiscal year 1958 will be furnished as required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,453,000 is an increase of $523,000 over the latest estimate ($4,930,000) submitted to Congress; $193,000 of the increase is attributable to price level rise. The balance of the increase ($330,000) is due primarily to design changes on bridges resulting from more detailed studies of foundation conditions.

Mr. KIRWAN. Are there any questions on this project?

WELLSVILLE, GENESEE RIVER, N. Y.

If not, we will turn to Wellsville, Genesee River, N. Y.
Pages 82, 83, and 84 for the record.
(The material is as follows:)

WELLSVILLE, GENESEE RIVER, N. Y.

(Continuing)

Location.—Local protection for the village of Wellsville, located in Allegany County, and situated at the junction of Dyke Creek and Genesee River, 136.3 river miles above the mouth of Genesee River, which empties into Lake Ontario.

Authorization.—1950 Flood Control Act.

Benefit-cost ratio.—1.4 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost	$1, 014, 000	
Estimated non-Federal cost	170, 000	
Cash contributions	50, 000	
Other costs	120, 000	
Total estimated project cost	1, 184, 000	
Appropriations to June 30, 1956	414, 000	
Appropriations for fiscal year 1957	450, 000	
Appropriations to date	864, 000	85
Appropriations requested for fiscal year 1958	150, 000	100
Balance to complete after fiscal year 1958	None	

PHYSICAL DATA

Channels: Improvement of lower 3,400 feet of Dyke Creek and improvement of Genesee River 8,600 feet downstream and 3,200 feet upstream from the mouth of Dyke Creek.
Relocations: Roads: Pier protection of South Main Street Highway Bridge.
Relocations: Railroads: Underpinning of the Wellsville, Addison and Galeton (formerly B. & O.) Railroad bridge and protection for the east abutment of the Erie Railroad bridge.

Status (Jan. 1, 1957)

	Percent completed	Completion schedule
Pier protection of South Main Street Highway Bridge	100	October 1956.
Underpin Wellsville, Addison & Galeton Railroad bridge	100	December 1956.
Protection for east abutment of Erie Railroad bridge	100	October 1956.
Channel improvements in Genessee River and Dyke Creek	35	February1958.
Entire project	37	Do.

JUSTIFICATION

The project will reduce flood stages in the village of Wellsville and will eliminate about 87 percent of the average annual flood damages. The flood area at Wellsville contains the muncipal water and light plant, plants of the Sinclair Refining Co., Air Preheater Co., Julius Kayser Co., and public schools, part of the business district, parks, and some residences.

Floods at the water and light plant interrupt water and power service to the entire village, including a plant of the Worthington Pump & Machinery Co. Simultaneous flooding in other areas may damage the line which is the only alternate source of power. The project is necessary to prevent flooding, which disrupts the production of the local industries either directly or by interrupting power transmission, and will eliminate a potential health and fire hazard to the residents of Wellsville from the interrupted water and power service.

The average annual amount of flood damages that would be prevented by the project is estimated as $67,900. In recent years floods of Wellsville have increased in frequency, thereby increasing the desirability of providing protection for the village.

Fiscal year 1958.—The requested amount of Federal funds of $150,000 will complete the project.

Non-Federal costs.—The cost to local interests of complying with the requirements of local cooperation as set forth in the authorizing legislation is $170,000. This cost to local interests consists of a cash contribution of $50,000, payments for lands and damages $76,000, and relocation of utilities $44,000.

In addition, local interests are required to maintain and operate the project upon completion. The cost of this work is estimated at $4,000 annually.

Status of local cooperation.—The village of Wellsville on October 6, 1955, furnished the required cash contribution for construction of the project. The Department of Public Works, State of New York, by letter dated October 13, 1955, submitted the required assurances for other items of local cooperation. The State of New York has furnished all lands necessary for project construction.

Comparison of Federal cost estimate.—The current Federal cost estimate is a decrease of $116,000 under the latest estimate ($1,130,000) submitted to Congress. The decrease is due primarily to receipt of contract bids for construction of the project.

Mr. KIRWAN. What has happened to this project that you expect to have $225,900 unobligated at the end of this year?

General BERRIGAN. We have a continuing contract and we could actually obligate it in that contract, but the contractor is required to obtain a very heavy section of steel piling to construct a dam in the upper portion of the project, and he has been unable to get that steel.

Mr. KIRWAN. That is the hold-up?

General BERRIGAN. That is the holdup. As soon as he gets the steel he can do the excavation. We could obligate the funds but he could not expend them.

Mr. KIRWAN. The demand for steel is slowing up. Youngstown is a very important steel center and I read in the paper yesterday they are closing down some there. So I think steel will be loosening up.

Mr. TABER. What is the status of the funds that have been appropriated?

General BERRIGAN. At the present time, we estimate that on June 30, 1957, we will have $225,900 unobligated, and $312,000 unexpended. But we have a continuing contract and could obligate them, but the contractor could not expend them. The work is all under contract. I think the contractor has been trying to get the steel for about a year.

Mr. TABER. Is this a flood-control project?

General BERRIGAN. Yes. We built the drop structure in the lower end and have dredged to the drop structure. They have a dam up here [indicating] and if we did not put in this steel sheet wall pile cutoff and started to dredge it would cause this dam to fail, so that steel is necessary before we let the contractor do the excavation shown in red on this map; but it is all under contract.

Mr. TABER. That is all.

EAST BARRE RESERVOIR

Mr. KIRWAN. Next is East Barre Reservoir, Vt.

Pages 88, 89, and 90 for the record.

(The material is as follows:)

EAST BARRE RESERVOIR, VT. (MODIFICATION OF DAM)

(Continuing)

Location.—On the Jail Branch which enters the Winooski River 58.5 miles above the mouth, and immediately upstream from the village of East Barre, Vt.

Authorization.—1944 Flood Control Act.

Benefit-cost ratio.—Authorization based on assuring the safety of the existing structure.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$2,200,000	
Estimated non-Federal cost	122,000	
Cash contributions	0	
Other costs	122,000	
Total estimated project cost	2,322,000	
Appropriations to June 30, 1956	122,000	
Appropriations for fiscal year 1957	800,000	
Appropriations to date	922,000	42
Appropriations requested for fiscal year 1958	600,000	69
Balance to complete after fiscal year 1958	678,000	

PHYSICAL DATA

Dam:

Type: Earth fill structure.

Height: Increases existing from 55 feet to 65 feet.

Length: Increases existing from 1,040 feet to 1,460 feet.

Reservoir capacity:

Flood control: 12,050 acre-feet.

No additional storage to be provided by modification of dam.

Spillway:
Type: Ungated concrete ogee with stilling basin (existing concrete sill removed).
Capacity: (Maximum pool) increases existing from 4,000 cubic feet per second to 37,100 cubic feet per second.
Status (January 1, 1957): Not started.
Completion schedule:
Relocations: June 1957.
Dams: November 1958.
Permanent operating equipment: November 1958.
Entire project: November 1958.

JUSTIFICATION

The existing spillway capacity, designed on the basis of hydrometeorological data available at the time of construction is inadequate in the light of present available date. The project modification involving enlargement of the spillway and increasing the dam height will provide sufficient spillway capacity to pass safely the maximum flood now considered probable of occurrence. Such a flood occurrence with the existing spillway would cause the dam to be overtopped and possibly destroyed with attendant widespread destruction and great loss of life. Damage would be most severe along the Jail Branch, the Stevens Branch in the city of Barre (population 10,900), and the Winooski River in the city of Montpelier (population 8,600), the capital of Vermont. The modification is necessary to insure the safety of the structure and safeguard life and property downstream.

Fiscal year 1958.—The requested amount of $600,000 will be applied to—

Continue construction of the dam initiated under a continuing contract in fiscal year 1957	$530,000
Engineering and design	4,000
Supervision and administration	66,000
Total	600,000

Present conditions at this dam are considered to be hazardous because of the extremely limited capacity of the spillway which is constructed on earth. There is no assurance that a disastrous flood such as occurred in the Northeast as the result of the Hurricane Diane (August 19–20, 1955) might not occur at any time. Therefore, continuation of construction is considered highly urgent, so as to insure early completion. The funds requested are the minimum necessary to carry on construction of the project at an orderly and economical rate of progress.

Non-Federal costs.—The initial investment required of local interests in construction of the authorized project is estimated at $122,000, all for lands and damages.

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance is estimated to increase $200 to a new total of $1,000.

Status of local cooperation.—Assurances of local cooperation for the project were executed by the State of Vermont on July 1, 1956. The State of Vermont advised on August 15, 1956, that acquisition of permanent and temporary easements required for construction of the project was completed.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2,200,000 is a decrease of $1,550,000 from the latest estimate ($3,750,000) submitted to Congress. This decrease is due to reexamination of requirements based on more detailed design and favorable bids received for modification of the dam.

Mr. KIRWAN. When the budget was presented last year the committee was led to believe this was an urgent project. Why had not work been started by January 1? Has it been started now?

Colonel PENNEY. The work is now underway. There was one contract that was awarded at the end of November, but construction had not yet been initiated by January 1.

Mr. KIRWAN. Will all of the 1957 funds be obligated by the end of the year?

Colonel PENNEY. Yes, sir, all obligated.

Mr. TABER. You are going to let some more contracts?

Colonel PENNEY. No, sir. All the work is under one contract and it has been awarded.

Mr. TABER. How far has it progressed?

Colonel PENNEY. It is about 8 percent complete.

Mr. TABER. That is all.

OPERATION AND MAINTENANCE

Mr. KIRWAN. For "Operation and maintenance" of projects in this area you are asking $9,812,400 for over 60 projects.

Pages 92 through 100 for the record.

(The material is as follows:)

1. Navigation

(*a*) *Channels and harbors.*—The budget estimate of $6,496,000 provides for essential maintenance work on 54 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of maintaining the Great Lakes harbors and waterways by means of dredging, snagging, and repairing harbor jetties and breakwaters; periodic inspections and surveys to determine conditions of the projects for programing purposes and providing navigation interests with adequate information on existing channel conditions; all as authorized in the laws adopting river and harbor projects. This estimate includes $300,000 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
ILLINOIS							
Calumet Harbor and River	103.8	393.5	29.0	100.0	100.0	229.0	Dredging and breakwater repair.
Chicago Harbor	374.8	211.8			397.0	397.0	Repair of exterior breakwater.
Waukegan Harbor	115.8	73.9		127.0		127.0	Dredging.
INDIANA							
Indiana Harbor	128.1	32.8	62.0	40.0		102.0	Do.
Michigan City Harbor		103.8		153.0		153.0	Do.
MICHIGAN							
Channels in Lake St. Clair	78.6			71.0		71.0	Do.
MINNESOTA							
Duluth-Superior Harbor	168.4	499.0	183.0		282.0	465.0	Dredging and repair of north pier, Superior entrance.
Two Harbors Harbor				30.0		30.0	Dredging.
NEW YORK							
Buffalo Harbor	205.7	340.9	356.0		150.0	506.0	Dredging and breakwater repair.
Dunkirk Harbor	16.0	20.1	20.0			20.0	Dredging.
Great Sodus Bay Harbor	27.5	220.6	20.0			20.0	Do.
Nigara River	7.2	12.0	10.0			10.0	Do.
Oswego Harbor	58.8	61.5	26.0		35.0	61.0	Dredging and breakwater repairs.
Rochester Harbor	121.0	100.0	102.0			102.0	Dredging.

Obligations—Continued

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
OHIO							
Ashtabula Harbor	146.7	115.3	92.0			92.0	Dredging
Cleveland Harbor	819.5	812.4	831.0		125.0	956.0	Dredging and repairs to east breakwater.
Conneaut Harbor	198.0	171.0	56.0		135.0	191.0	Repairs to west breakwater.
Fairport Harbor	102.7	221.3	102.0		20.0	122.0	Dredging, repairs to east breakwater.
Huran Harbor	95.5	140.9	71.0			71.0	Dredging.
Lorain Harbor	118.9	171.7	148.0		25.0	173.0	Dredging and repairs to east breakwater.
Sandusky Harbor	72.4	230.0	85.0			85.0	Dredging.
Toledo Harbor	308.0	375.5	387.0			387.0	Do.
Charlevoix Harbor	5.9			9.0		9.0	Do.
Detroit River	224.9	205.1	234.0			234.0	Do.
Frankfort Harbor	18.9	18.6		49.0	15.0	64.0	Dredging and breakwater repair.
Grand Haven Harbor and Grand Haven River.	165.2	196.6	75.0		125.0	200.0	Repair of south revetment.
Holland Harbor	12.3	152.0	23.0	11.0		34.0	Dredging and breakwater repair.
Ludington Harbor	108.2	71.8	20.0		150.0	170.0	Dredging.
Keweenaw Waterway	94.6	128.4	98.0			98.0	Dredging and breakwater repair.
Manistee Harbor	24.4	36.9	24.0	15.0		39.0	Do.
Manistique Harbor	27.5	36.4	29.0			29.0	Dredging.
Menominee Harbor and River	1.6	20.2		18.0		18.0	Do.
Monroe Harbor	13.2	40.8		56.0		56.0	Do.
Muskegon Harbor	8.0	334.5	28.0		150.0	178.0	Dredging and repairs to north revetment.
Ontonogon Harbor	33.7	17.8		25.0		25.0	Dredging.
Portage Lake Harbor			31.0			31.0	Do.
Rouge River	75.8	91.2	102.0			102.0	Do.
Saginaw River	207.8	79.8	76.0			76.0	Do.
St. Clair River	17.5	113.1	36.0			36.0	Do.
St. Joseph Harbor	30.2	183.7	39.0			39.0	Do.
Saugatuck Harbor	26.2			25.0		25.0	Do.
South Haven Harbor	18.6	35.3	31.0			31.0	Do.
White Lake Harbor	20.9	32.3	23.0			23.0	Do.
PENNSYLVANIA							
Erie Harbor	75.6	71.8	72.0			72.0	Do.
WISCONSIN							
Algoma Harbor			20.0			20.0	Do.
Big Suamico River				10.0		10.0	Do.
Green Bay Harbor	76.6	72.1	69.0			69.0	Do.
Sturgeon Bay and Lake Michigan ship canal.	144.8	103.0	47.0		70.0	117.0	Revetment repair.
Kewaunee Harbor	59.8	132.0		122.0		122.0	Repair of south pier.
Manitowoc Harbor	19.9	2.0	31.0			31.0	Dredging.
Sheboygan Harbor	26.4	40.0	20.0			20.0	Do.
Port Washington Harbor		30.0	15.0			15.0	Do.
Racine Harbor		30.0	23.0		8.0	31.0	Breakwater repair.
Two Rivers Harbor	44.1	132.9	41.0			41.0	Dredging.
Project condition surveys	35.2	66.0	46.0	15.0		61.0	
Other projects maintenance periodically.	691.4	1,375.2					
Total channels and harbors	5,576.6	8,157.5				6,496.0	

(*b*) *Locks, dams, reservoirs, and canals.*—The budget estimate of $506,000 provides the minimum amount necessary for annual operational requirements, and essential dredging and lock repairs. The amount requested recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts required for the day by day functioning of the projects. Periodic requirement is indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
NEW YORK							
Black Rock Channel and Tonawanda Harbor.	284.5	278.1	278.0	0	0	278.0	
WISCONSIN							
Fox River	269.3	230.0	172.9	55.1	0	228.0	Dredging, lock repairs.
Total locks, dams, reservoirs, and channels.	533.8	508.1				506.0	

(*c*) *Surveys of northern and northwestern lakes.*—The budget estimate of $545,500 is the minimum necessary for continuing the program of revision of Great Lakes navigation charts, studies of the Great Lakes levels, and hydraulic studies in the St. Mary, St. Clair, Detroit, and Niagara Rivers. Up-to-date navigation charts are essential to the safe navigation of ore carriers, other commercial vessels, and Government craft. The drafts of lake vessels are rapidly increasing and the St. Lawrence seaway will further increase lake traffic by bringing deep-draft ocean vessels to the lakes. A large percentage of the offshore waters of the Great Lakes have not been sounded since the original surveys were made in periods immediately before and after the Civil War. The magnitude of this charting requirement is evidenced by the fact that the Great Lakes and their connection channels have a water surface area of over 95,000 square miles and a shoreline of some 8,300 miles. The estimated obligations during fiscal year 1957 for these activities amount to $520,355 and actual obligations in fiscal year 1956 were $528,497.

Obligations

[In thousands of dollars]

	Fiscal year 1956, actual	Fiscal year 1957, estimated	Fiscal year 1958, estimated
Total navigation	$6,639.0	$9,186.0	$7,585.0

2. Flood control

(*a*) *Reservoirs.*—The budget estimate of $54,000 for the operation and maintenance of one flood-control reservoir in the basin, provides the minimum amount necessary for annual operational requirements including ordinary maintenance of the project facilities; labor, supplies, materials, and parts required for the day-by-day functioning of the project.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
NEW YORK							
Mount Morris Reservoir	53.0	51.0	54.0	0	0	54.0	

(*b*) *Other (including channel improvement projects, miscellaneous items, and inspections*).—The budget estimate of $113,400 provides for periodic maintenance work essential to restore the project to effective functioning for flood control, and for inspection of 7 completed works within the basin during the budget year.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
MICHIGAN							
Sebewaing River	4.2	2.9	3.0	108.8		111.8	Annual removal of ice jams and periodic dredging.
Inspection of completed works	1.6	1.4	1.6			1.6	
Total flood control—Other	5.8	4.3				113.4	
Total flood control	58.8	55.3				167.4	

3. Mutiple-purpose projects including power

The budget estimate of $2,060,000 for the operation and maintenance of the St. Marys Falls Canal, locks and powerplant, provides the minimum amount necessary for operational requirements, including $75,000 of the $5 million provided in the budget for reduction of the backlog of urgently needed maintenance work. The amount requested recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required for the day-by-day functioning of the project. Periodic or onetime requirement is indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
MICHIGAN							
St. Marys River	1,735.8	2,023.0	1,910.0	150.0	0	2,060.0	Various rehabilitation work including repair Sabin lock wall.

4. Fish-sanctuary program

Not applicable to this basin.

5. Niagara remedial works, N. Y.

The budget estimate of $37,500 provides for the United States share of the cost of operation and maintenance of remedial works on the Niagara River, an international boundary watercourse. Pursuant to the 1950 Niagara Water Treaty with Canada, a project was approved and undertaken by the two Governments for remedial works necessary to produce an unbroken crestline at Niagara Falls as a measure to fulfill the objectives of the treaty to utilize the Niagara River waters and preserve and enhance the scenic beauty of the falls. The works consist of a control structure from the Canadian shore to a point about 1 mile above the Horseshoe Falls, and for excavations and fills on both flanks of the Horseshoe Falls, with the cost divided equally between the 2 Governments. The Corps of Engineers, as the designated construction agency for the United States, has undertaken that portion of the work consisting of excavation and fill on the United States side of the Horseshoe Falls. The Ontario Hydroelectric Power Commission is performing the work in Canada, consisting of the control structure and the excavation and fill required on the Canadian flank of the Horseshoe Falls. The construction of these works is scheduled for completion in June 1957. In accordance with the Niagara Water Treaty, the expense of operation and maintenance is to be shared equally between the two Governments. For the fiscal year 1958 the estimated cost of operation and maintenance of the works completed by the Canadian and United States agencies is $75,000.

The Corps of Engineers has been designated the United States agency to perform this Government's obligations with respect to the operation and maintenance of these works, including the operation of gaging activities in the United States and reimbursement to Canada for a portion of the costs incurred by that Government.

Obligations

[In thousands of dollars]

	Fiscal year 1956, actual	Fiscal year 1957, estimated	Fiscal year 1958, estimated
Total, Great Lakes-St. Lawrence Basin	$8,433.6	$11,267.3	$9,812.4

Mr. KIRWAN. The request of $9,812,400 for 1958 is about $1.5 million less than 1957. What accounts for this sizable reduction?

General BERRIGAN. The reduction is pretty much interspersed through a large number of projects where we will not be required to do as much dredging next year as this year.

Mr. KIRWAN. I notice you have no maintenance scheduled for Chicago Harbor. Is this not unusual?

General BERRIGAN. That is a case where we have gone in and done the dredging last year and we do not have it to do every year.

SURVEYS OF NORTHERN AND NORTHWESTERN LAKES

Mr. KIRWAN. It is already completed, then. Would you bring the committee up to date on the surveys of northern and northwestern lakes, for which you are asking $545,500 to continue in 1958?

General BERRIGAN. That is the project for the deepwater surveys in all the Great Lakes. We are now working in Lake Superior. The original deepwater surveys were made about 1875 with the type of equipment they had at that time. We use a seagoing tug, the *Williams*, for these surveys, and we have radar stations in the United States and some in Canada that can actually locate the survey vessel. In the past they crossed the lake about every 3 miles; thus the sound-

ings were taken about 3 miles apart. We are now going in between and will have soundings about every mile and a half, and due to the more accurate information now being secured, we are going in some places and correcting the old surveys, which were good for that time but are not adequate under present standards.

Mr. KIRWAN. When it is done it will be safer for navigation?

General BERRIGAN. Yes, sir. Some places we have only got 50 or 60 feet of water and 27 feet navigation requirement. If a ship sinks in 50 or 60 feet of water, it is a hazard to navigation. If it sinks in 150 feet of water, there is no hazard.

Mr. KIRWAN. You are making a complete survey?

General BERRIGAN. Yes, sir, of all these lakes.

Mr. BOLAND. You are asking for $9,812,400 for fiscal year 1958 for operation and maintenance?

General BERRIGAN. Yes.

DREDGING EXPENSES

Mr. BOLAND. How much of that can you attribute to dredging?

General BERRIGAN. About $4½ million or 46 percent is for dredging. Some $2 million is for breakwater repair.

Mr. BOLAND. Is there any way in which the cost of dredging can be lowered? Every year we have these requests for dredging and the costs have been steadily going up. It would seem this is an area in which we ought to be able to reduce the cost. You do the same thing practically every year. I do not mean this basin only, but throughout the United States. Do you have any idea what the profits are to private businesses in this particular field?

General BERRIGAN. We find that frequently we get bids more than 25 percent in excess of what we think is the fair cost. In certain cases we can do the work ourselves by hired labor where the bids exceed our estimate by more than 25 percent. We did one job by hired labor last year where that was the case, and the bidders followed our operations very closely and found we were doing the work within our estimate.

Mr. BOLAND. What percentage of the dredging does the Corps of Engineers do? Do you handle a lot of it?

General BERRIGAN. Yes. We do a considerable amount of hopper dredging. In fact, we have more dredging than plant available for accomplishing this type of work.

Mr. BOLAND. Do you find you can do it cheaper than private business?

General BERRIGAN. Yes, particularly hopper dredging.

Mr. BOLAND. That is all.

Mr. JENSEN. Most of your problem that makes it necessary to do work on navigable waterways is the silt which runs into those channels and harbors. Is that a fact?

General BERRIGAN. On the Great Lakes.

Mr. JENSEN. I am not thinking just of the Great Lakes right now

General BERRIGAN. If you are thinking of the Delaware River and places like that, that is true. We have the problem of littoral movement of beach sand requiring dredging as well as silt coming from the tributaries.

Mr. JENSEN. To a large degree it is the silt coming from the tributaries that makes is necessary to dredge on the large rivers?

General BERRIGAN. Yes, Toledo and Cleveland and Buffalo, it is the silt coming from the tributaries.

Mr. JENSEN. So one way to prevent silt from getting into the navigable streams is, of course, to stop the silt from being poured into those streams from the tributaries, and the only way to do that is by soil conservation, such as the work recommended by the Soil Conservation Service; and I am glad to know that the Army engineers are working very closely with the Soil Conservation Service in that great field.

Mr. TABER. Are they?

Mr. JENSEN. Yes.

Mr. TABER. Not as much as they ought to.

Mr. JENSEN. Maybe not as much as they ought to, but they are working together.

General BERRIGAN. I think a lot of our reports are being held up because we cannot get the answers from the Soil Conservation Service. Out flood-control reports are held up until the Soil Conservation Service reports are completed.

Mr. JENSEN. They probably do not have the personnel to give you the answers as fast as you require them, but I am thinking of the silt in the main stem of the Missouri River. There is about half the silt now going downstream as was going downstream about 5 years ago. Much of that, of course, is due to the fact we have built many dams up the river, not only on the main stem but on the tributaries. But a lot of it also is due to the fact that the farmers are practicing soil conservation as recommended by the Soil Conservation Service and are holding the water where it falls.

Off the record.

(Discussion off the record.)

Mr. JENSEN. That is all.

Mr. KIRWAN. We will adjourn until 2 o'clock.

MANISTEE RIVER CHANNEL, MICH.

Mr. RABAUT. I regret very much that other important business kept me from attending the hearing this morning. I will not take the time of the committee to go back and discuss the many projects in the Great Lakes-St. Lawrence area that I have considerable interest in, but before we go on to consider the Ohio Basin projects there is one matter I would like to take up with General Berrigan for just a few minutes.

General Berrigan, I have before me a map prepared by the Corps of Engineers. This is the Manistee River in Michigan. This map shows an extension from Lake Michigan to Manistee Lake.

Congressman Griffin of this area brought up this subject with me and asked me about it. I want to get some information for the record on it.

The 1956 report of the Corps of Engineers on page 1368 has information on this project which we can either insert in the record or, if you are prepared to do so, perhaps you could tell us about it now.

General BERRIGAN. I can give it right now in general terms. The River and Harbor Act of 1930 authorized the dredging of the channel in the Manistee River to connect Manistee Lake with Lake Michigan. It prescribed no work would be done above the bridges until they had

been modified. There were three bridges in the river—Smith Street Bridge, Maple Street Bridge, and the railroad bridge. The Smith Street and railroad bridges have been modified, and the bridge which has not been modified is the Maple Street Bridge.

Mr. RABAUT. That is right.

General BERRIGAN. Under this authorization we are precluded from doing dredging until the local interests have modified the bridges.

Mr. RABAUT. I would like you to put in the record the tonnage on this river, which I understand is a considerable amount.

(The information requested is as follows:)

The record of tonnage which moved through the Manistee Harbor entrance channel and passed through to Manistee Lake is as follows:

Year:	*Tonnage*
1953	278,000
1954	225,000
1955	301,000

Mr. RABAUT. In talking with the Congressman from the area he told me that the most they could bond the area for was $200,000, and he figured further local interests would give about $200,000 toward it, but the bridge will cost approximately $900,000.

Is there any way that their funds could be augmented?

General BERRIGAN. Not under the present authorization. The bridge evidently is only 70 feet wide and the channel is 100 feet wide. The only possibility would be that if navigation interests objected to the bridge and it was requested it be modified under the terms of the Truman-Hobbs Act. That would require a public hearing and a thorough justification that the bridge actually is an obstruction to navigation.

We could not do it just to replace a bridge which needs to be replaced.

Mr. RABAUT. Part of the river is supposed to be 21 feet but it is really 19 feet. As to the section from this bridge back to the Manistee Lake is the corps ready to put it to the proper depth?

General BERRIGAN. We are prohibited from doing it because of that.

Mr. RABAUT. The bridge is only 70 feet wide and I think the Secretary said it must be 100 feet wide. Evidently they feel it is too close for ships to go through there with the 70-foot width.

General BERRIGAN. It was not an unusual requirement at that time that the bridges be modified if the Federal Government provided the channel.

Mr. RABAUT. Would you enlarge on this for the record?

General BERRIGAN. I believe the only thing we can do is to investigate to see if there have been objections from the viewpoint of this being an obstruction.

Mr. RABAUT. Thank you very much for coming back this afternoon on this. I was anxious to get that in the record.

OHIO BASIN

Gentlemen, we will now go on to the consideration of projects in the Ohio Basin.

General Investigations

Under "General investigations" you have a request for $468,100 for 12 projects.

We will place pages 3, 3–A and 3–B of the justifications in the record at this point.

(The pages referred to follow:)

General Investigations, Fiscal Year 1958

1. Examinations and surveys

(*a*) *Navigation studies.*—None.

(*b*) *Flood-control studies.*—The amount of $258,100 is requested for prosecution of 11 studies during fiscal year 1958. This amount will permit completion of 8 reports and progress on 3 others. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Indiana:				
Wabash River above White River, Ind. and Ill.	$275,000	$112,500	$20,000	$142,500
White River	238,000	44,700	20,000	173,300
Kentucky:				
Cypress Creek	22,000	17,000	5,000	0
Kentucky River	171,000	116,500	54,500	0
Laurel River	35,800	16,000	19,800	0
Little Sandy River and Tygarts Creek	60,600	30,600	30,000	0
New York: Allegheny River, Salamanca, N. Y.	30,600	10,000	20,600	0
Pennsylvania:				
Connoquenessing Creek, Butler, Pa.	61,600	29,900	31,700	0
French Creek	105,100	16,100	35,000	54,000
Loyalhanna Creek, Latrobe, Pa.	41,700	23,900	17,800	0
West Virginia: West Fork River	92,600	88,900	3,700	0
Total	1,134,000	506,100	258,100	369,800

(*c*) *Beach erosion cooperative studies.*—None.

(*d*) *Special studies.*—The amount of $210,000 is requested for completion of the preliminary phase of the Ohio River review during fiscal year 1958.

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Ohio River review	[1] $310,000	$100,000	$210,000	0
Total	310,000	100,000	210,000	0
Grand total	1,444,000	606,100	468,100	$369,800

[1] Estimated cost for preliminary phase only. Additional funds probably required.

OHIO RIVER REVIEW

Mr. Rabaut. The $210,000 for the Ohio River Review is to finish the "preliminary phase" according to page 3–B of the justifications.

Just what is the preliminary phase?

Colonel Smyser. The preliminary phase is really in two parts: a verification or modification of our standard project floods, and the design floods, and then a review of the performance and adequacy of the completed reservoirs, both those under construction and those planned. That includes, of course, the consideration of the remaining substitutes—those remaining authorized.

Mr. RABAUT. What is planned after the preliminary phase is completed?

Colonel SMYSER. After we have completed the preliminary phase we will then have to decide on the basis of that information whether the entire plan should be modified in some degree or other.

Mr. RABAUT. Modified or enlarged?

Colonel SMYSER. Yes, sir. In other words, we are just reviewing our hydraulic data in the light of our more modern knowledge of meteorology and then after we know where we stand, we will then consider whether any modification of the plan should be made.

Mr. RABAUT. Have you any idea what the final study will be likely to cost?

Colonel SMYSER. No, sir; not at this time. We want to finish the first phase and see. It depends entirely, sir, on what we get in the preliminary phase.

If it is very close to adequate we may not have to revise it.

ADVANCE ENGINEERING AND DESIGN

Mr. RABAUT. Under "advance engineering and design" you have $688,000 for six projects.

Colonel SMYSER. Yes, sir.

Mr. RABAUT. We will place pages 5 to 21 in the record at this point.

(The pages referred to follow:)

NEW RICHMOND LOCKS AND DAM, OHIO RIVER, KY. AND OHIO

(Continuation of planning)

Location and description.—In Ohio River, 436.2 miles below Pittsburgh, Pa., in Bracken County, Ky., and Clermont County, Ohio, and about 13 miles upstream from New Richmond, Ohio. The project provides for construction of a nonnavigable, gate-controlled dam with 2 locks 1,200 by 110 feet and 600 by 110 feet to replace existing locks and dams Nos. 31, 32, 33, and 34.

Authorization.—River and Harbor Act of March 3, 1909.

Benefit-cost ratio.—2.2 to 1.0.

Summarized financial data

Estimated Federal cost	$72,800,000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	72,800,000
Preconstruction planning estimate	300,000
Appropriations to June 30, 1957	125,000
Planning allocation for fiscal year 1958	175,000
Balance to complete preconstruction planning after fiscal year 1958	0

JUSTIFICATION

The project will provide for replacement of four existing locks and dams on the Ohio River, all of which will have reached or approached the end of their useful economic life by the time the New Richmond locks and dam can be completed. The existing structures were not designed with respect to volume, direction, and character of traffic to efficiently handle the modern type of tows and large volume of traffic now using the river. The magnitude of the changes emphasizes the need for modern facilities to provide efficient service for the present conditions and increased traffic which can reasonably be anticipated in the near future. In addition to eliminating delays to navigation, the proposed project will avoid the difficulties and hazards involved in operating the existing wicket-type dams under ice conditions and would insure against a serious interruption to traffic which would attend a failure of one of the old structures. The New Richmond locks and dam, in conjunction with Greenup and Markland now under construction, will complete

modernization of the highly important Huntington-Cincinnati-Louisville reach of the Ohio River.

A record high of 71,461,000 tons was moved on the Ohio River in 1955, indicating that traffic has doubled in the past 10 years. All indications are that the growth in traffic will be even more accelerated in the future by the rapid industrial expansion now taking place in the Ohio River Basin. Construction and maintenance of adequate navigation structures to accommodate modern towing equipment is essential to the continued development of the area and to meet the growing need for economical transportation of bulk and finished products.

Non-Federal costs.—None.

Status of local cooperation.—Not applicable.

Comparison of Federal cost estimates.—No change from estimate last submitted to Congress.

PIKE ISLAND LOCKS AND DAM, OHIO RIVER, OHIO AND W. VA.

(Initiation of planning)

Location and description.—The site of the locks and dam is in Belmont County, Ohio, and Ohio County, W. Va., on the Ohio River, about 2 miles upstream from Warwood, W. Va., and about 84.2 miles below the head of the river at Pittsburgh, Pa. The project will consist of a high-lift, gate-crested type dam and 2 locks with usable dimensions of 110 by 1,200 feet and 110 by 600 feet.

Authorization.—1909 River and Harbor Act (subject to approval of Secretary of the Army).

Benefit-cost ratio.—1.08 to 1.

Summarized financial data

Estimated Federal cost	$66, 900, 000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	66, 900, 000
Preconstruction planning estimate	400, 000
Appropriations to June 30, 1957	0
Planning allocation for fiscal year 1958	50, 000
Balance to complete preconstruction planning after fiscal year 1958	350, 000

JUSTIFICATION

The Ohio River is one of the most important inland waterways of the world. It is the vital link between the northern industrial States, such as West Virginia, Pennsylvania, and Ohio, and the South and southern gulf ports. The products which it bears in vast quantities are iron and steel; coal and coke for the manufacture of iron and steel; fuel oil, gasoline, and other petroleum products; sulfur; limestone; and iron and steel scrap. Tonnages of traffic are very large and have been constantly increasing. For example, in 1945 annual tonnage was about 34 million; in 1950 it approached 50 million tons, and in 1955 it exceeded 71 million tons, of which over 12,500,000 tons consisting mainly of coal, oil and gasoline, and iron and steel products, passed through the project area.

The basic iron and steel industry is dependent upon river transportation via the Ohio River. Steel manufacturers at Pittsburgh, Pa.; Weirton, W. Va.; Steubenville, Ohio; Wheeling, W. Va.; and points downstream use the river extensively to ship their finished products. The heavy concentration of steel production below Pittsburgh receives practically all of its requirements of coking coal in barges which traverse the Ohio, and much of its limestone and other important operating supplies are delivered in the same manner. Their dependence upon river transportation is not merely a matter of operating economy, but if river shipments were halted for any appreciable length of time, their operations would be critically curtailed.

Locks 10 and 11, which will be replaced by Pike Island locks and dam, were constructed in the period 1904–16, are inadequate, not only because they are single locks of limited length, but also because they are in badly deteriorated condition from an operating point of view. It is possible that either one of them may have to be closed for extensive and prolonged repairs at any time because of a major failure, which would be disastrous for the essential traffic which moves through this section of the Ohio River.

Non-Federal cost.—The construction, operation, and maintenance of the Pike Island project will not require direct local participation. However, the new

project will affect and require modification of certain existing facilities, such as terminal piers and docks, water intakes, submerged utility lines, and similar structures or facilities which were constructed within the bed of the river under the purview of section 10 of the River and Harbor Act approved March 3, 1899. It is the responsibility of the owners of such facilities to adapt these facilities to new project conditions without cost to the United States. Estimates of cost of modifying existing facilities are not available since present knowledge of the nature of such modifications which will be undertaken by owners of affected facilities is not sufficient to permit a firm evaluation.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—No project cost estimate has been previously submitted to Congress.

MAXWELL LOCKS AND DAM, MONONGAHELA RIVER, PA. AND W. VA.

(Initiation of planning)

Location and description.—The site of the locks and dam is in Fayette and Washington Counties, Pa., on the Monongahela River at Maxwell, Pa., and about 61.3 miles above the mouth of the river at Pittsburgh, Pa. The project will consist of a gated-crest, nonnavigable dam and 2 locks with usable dimensions of 84 by 720 feet and 56 by 720 feet.

Authorization.—1909 River and Harbor Act, (subject to approval of the Secretary of the Army).

Benefit-cost ratio.—1.17 to 1 (for improvement of middle Monongahela River).

Summarized financial data

Estimated Federal cost	$28, 300, 000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	28, 300, 000
Preconstruction planning estimate	420, 000
Appropriations to June 30, 1957	0
Planning allocation for fiscal year 1958	50, 000
Balance to complete preconstruction planning after fiscal year 1958	370, 000

JUSTIFICATION

The proposed comprehensive plan of improvement for the Middle Monongahela River is based on the ultimate need for orderly replacement of navigation facilities between dam 4 and dam 8. The plan will consist of raising pool 4 by reconstruction of dam 4 integrated with construction of Maxwell locks and dam to replace existing locks and dams 5 and 6 and construction of Grays Landing lock and dam to replace existing lock and dam 7. The practicable capacity of the existing locks has been reached and the consistent increase in commerce and modernization of towing equipment make it necessary to provide larger locks in this reach of river. The replacement of locks and dam 5 is the immediate need in the improvement plan due to obsolescence and inadequacy of the structures. Locks and dam 5 are 47 years old and approaching the end of their useful physical life. In addition, the locks are inadequate for present and prospective traffic on this part of the Monongahela River. In 1955 traffic through locks 5 was over 24 million tons compared to about 8,600,000 tons in 1935. The increase in tonnage through the years is due principally to depletion of metallurgical coal along the lower river resulting in development of upriver sources of this coal. Locks and dam 6, partially reconstructed 40 years ago, are also approaching the age where plans for replacement must be considered. Accordingly, the plan of improvement provides for replacement of both locks and dams 5 and 6 by the Maxwell locks and dam supplemented by raising of pool 4.

Non-Federal cost.—Direct cooperation on the part of local interests is not required in relation to the project. However, estimated non-Federal costs of $1,180,000 will result from adjustments which will be required by the owners to adapt their facilities to new project conditions.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—No project cost estimate has been previously submitted to Congress.

No. 2 Barren Reservoir, Ky.

(Continuation of planning)

Location and description.—The dam is to be located on the Barren River, 79.2 miles above its mouth, in Barren and Allen Counties, Ky., about 10 miles northeast of Scottsville and 95 miles south of Louisville, Ky. The site is 228.7 miles above the Ohio River, and about 6 miles below the mouth of Skeggs Creek, the principal tributary of the Barren River above the site. The reservoir will extend upstream a distance of about 41 miles and will lie in Barren and Allen Counties. The unit, as now proposed, provides for an earth and concrete dam with an uncontrolled spillway and outlet works, and necessary relocations of highways and utilities.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.— 2.3 to 1.

Summarized financial data

Estimated Federal cost	$21, 600, 000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	21, 600, 000
Preconstruction planning estimate	195, 000
Appropriations to June 30, 1957	25, 000
Planning allocation for fiscal year 1958	50, 000
Balance to complete preconstruction planning after fiscal year 1958	120, 000

JUSTIFICATION

The Barren Reservoir project is 1 of 81 reservoir units authorized for flood control and other purposes in the Ohio River Basin and is a highly desirable unit in the plan for flood control in the Barren and Green River Valleys. Operation of the reservoir for flood control will greatly reduce flood stages along the Barren River below the dam and, in combination with four other authorized reservoir units in the Green River Basin, will aid in the reduction of flood stages along the Green River, and will contribute to the reduction of major flood flows in the lower Ohio and Mississippi Rivers. Of the authorized reservoirs in the Green River Basin, one (Rough River Reservoir) is currently under construction and one other (Nolin Reservoir) is in the active planning stage. The No. 2 Barren Reservoir will control a drainage area of 941 square miles or about 10 percent of the Green River Basin. The flood plain areas of the Green and Barren Rivers have been devoted primarily to agriculture. However, the lower 100 miles of the Green River has recently been improved for navigation and additional mining and industrial activity in future years is expected in this area. Urban damage from flooding occurs at Bowling Green, Rochester, Central City, and Livermore. The project will afford substantial flood-control benefits to agricultural and urban areas in the Barren and Green Valleys and to the additional industrial developments now being established.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal estimate of $21,600,000 reflects an increase of $1,200,000 over the latest estimate submitted to Congress of $20,400,000. The increase is primarily due to price level changes. A relatively minor amount of the increase ($85,000) results from a reanalysis of engineering and design requirements.

Nolin Reservoir, Ohio River Basin, Ky.

(Continuation of planning)

Location and description.—The dam is to be located on the Nolin River, approximately 9 miles above its mouth, in Edmonson County, Ky., about 25 miles northeast of Bowling Green and 75 miles south of Louisville, Ky. Via the Green and Nolin Rivers, the site is about 193 miles above the Ohio River. The maximum flood-control pool would extend upstream from the dam site into Grayson, Hart, and Hardin Counties. The unit, as proposed, provides for an earth dam with an uncontrolled concrete spillway and outlet works; and necessary relocations of highways and utilities.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.6 to 1.

Summarized financial data

Estimated Federal cost	$16, 100, 000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated projects cost	16, 100, 000
Preconstruction planning estimate	238, 000
Appropriations to June 30, 1957	100, 000
Planning allocation for fiscal year 1958	138, 000
Balance to complete preconstruction planning after fiscal year 1958	0

JUSTIFICATION

The Nolin Reservoir project is 1 of 81 reservoir units authorized for the purpose of controlling floods in the Ohio River Basin and is a highly desirable unit in the plan for flood control in the Nolin and Green River Valleys. Operation of the reservoir for flood control will greatly reduce flood stages along the Nolin and Green Rivers below the dam and, in combination with other authorized reservoirs of the general comprehensive plan for flood-control purposes in the Ohio River Basin, will contribute to reduction in flood damages along the 197 miles of the Ohio River below Green River and along the Mississippi River.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $16,100,000 is an increase of $1 million over the latest estimate ($15,100,000) submitted to Congress. $838,400 of this increase is due to higher price levels and $161,600 is due to a reappraisal of engineering and design requirements.

SUMMERSVILLE RESERVOIR, W. VA.

(Continuation of planning)

Location and description.—The project is located on Gauley River near Summersville in Nicholas County, W. Va., 136.6 miles above the mouth of the Kanawha River. The reservoir would be created by construction of a rock fill dam to provide for flood control and allied purposes. The dam will be about 1,900 feet in length and have a maximum height of 350 feet.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.64 to 1.0.

Summarized financial data

Estimated Federal cost	$37, 700, 000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	37, 700, 000
Preconstruction planning estimate	596, 000
Appropriations to June 30, 1957	371, 000
Planning allocation for fiscal year 1958	225, 000
Balance to complete preconstruction planning after fiscal year 1958	0

JUSTIFICATION

The Summersville project is a unit in the comprehensive flood-control plan for the Ohio River Basin. The reservoir will relieve flood hazards along Gauley River below the dam, and will comprise one of the essential supplements to the completed Bluestone Reservoir on New River, and the Sutton Reservoir under construction on the Elk River, in providing flood protection for the narrow and densely occupied Kanawha Valley with its extensive industrial developments located largely on the flood plain. From the mouth of the Gauley River to a point below Nitro, W. Va., a distance of more than 50 miles, the valley is interspersed with varied manufacturing and industrial plants, including the large developments on the flood plain at and below Charleston among which are great basic alcohol, ammonia, and chlorine products plants which help to make the Kanawha Valley a chemical production center of worldwide importance, and a major naval ordnance plant. Extreme floods of record have inundated virtually the entire valley floor of the Kanawha River and the occurrence of a great flood similar to that of 1861 under the present congested condition of the valley would

result in industrial disaster and tragedy for thousands of persons. Additional reservoir control is required to assure dependable protection at and below Charleston from large general floods. The project will also reduce flood flows in the Ohio and Mississippi Rivers, and as a result of seasonal use of a part of its capacity, will increase low flows in the Kanawha River, thus aiding in alleviating a serious pollution problem in the industrial areas around and below Charleston.

Non-Federal costs.—None.

Status of local cooperation.—Not applicable.

Comparison of Federal cost estimates.—The current Federal estimate of $37,700,000 reflects an increase of $1,700,000 over the latest estimate submitted to Congress of $36 million. It was originally planned to abandon a State highway (No. 39), but recent growth in the area and increased use of the highway make it mandatory to provide for relocation at an estimated cost of $2,100,000. A reanalysis of engineering and supervision requirements resulted in a decrease of $250,000, and recent experience in design of similar projects permitted a decrease of $150,000 in the estimate for buildings, grounds, and utilities.

PIKE ISLAND LOCKS AND DAM

Mr. RABAUT. The Pike Island locks and dams, described on pages 8 and 9, would be a new planning start. Would you tell us a little about this new project?

Colonel SMYSER. Yes, sir. Pike Island replaces locks Nos. 10 and 11. It will be the next main lock downstream from New Cumberland, which is now under construction.

Mr. RABAUT. Why is this project chosen for inclusion in the budget when the benefit-cost ratio is only 1.08 to 1? Surely, there are many projects on the shelf, so to speak, that have much greater economic justification.

Colonel SMYSER. Sir, the benefit-cost ratio was that figured for the little 30-mile pool alone; in other words, the saving in lockage time, the saving in towing costs by having deeper water, and the saving in operation and maintenance. It did not consider the fact that this lock is part of a transportation system. Now, we did not choose this project for its benefit-cost ratio. We chose this because locks 10 and 11 are older locks.

Mr. RABAUT. Older?

Colonel SMYSER. Yes, sir. They are in need of extensive maintenance. Unless I can be sure that the new construction will be instituted very soon, we will have to spend about $1.75 million to put those locks in condition to make them last a reasonable period.

NON-FEDERAL COSTS

Mr. RABAUT. We notice on page 9 of the justifications that there will be non-Federal costs, but they have not been evaluated. If these costs were included, might not the benefit-cost ratio be less than 1 to 1?

Colonel SMYSER. I think not, sir. These non-Federal costs are those which we might say would be optional to some extent with the owners; whether they want to, shall we say, change their terminals to take advantage of the deeper water. These costs are slightly nebulous in that we do not know what the owner will wish to do, and, of course, if they gain benefits from it, we have not evaluated the benefits that they would be getting from making this change in their structures.

Mr. RABAUT. If they wanted deeper water, they would have to pay for it themselves?

Colonel SMYSER. Excepting, sir, in this case we are raising the pools and, therefore, some terminals will have deeper water alongside them than they had before. In one case a man may have to actually, shall we say, raise the height of his hoist, but he will get other benefits from that. Perhaps he could move inshore or maybe get additional space which we have not evaluated.

REDUCTION IN TOW RESISTANCE

Mr. RABAUT. Over 10 percent of the estimated annual benefits to result from this project are attributed to—

savings resulting from lower tow resistance due to increased depth of pool.

Colonel SMYSER. Yes, sir.

Mr. RABAUT. That is a quote.

Colonel SMYSER. Yes, sir.

Mr. RABAUT. Would you please explain this, and tell us how the amount was calculated?

Colonel SMYSER. Sir, the tendency of our shippers is to load their vessels to the maximum that the water will stand. If you have a 9-foot depth of water and you have vessels that draw 9 feet of water, and, assuming you would do it, there is a frictional resistance along the bottom. It takes more power to pull the same load in 9 feet of water than it does in 12 feet of water, and we had evaluated it based upon a long series of tests to find out the additional power, and that was the basis of computing this.

Mr. RABAUT. Was that because at times it drags?

Colonel SMYSER. It both drags and, actually, you have a frictional resistance under your hull. In fact, if you had only 9 feet of water and that was your maximum depth, you would not dare to load to 9 feet.

Mr. RABAUT. However, if the distance between the bottom of the keel and the river bottom is greater, there is less resistance?

Colonel SMYSER. Yes, sir. In other words, it takes less power to pull the same cargo.

MAXWELL LOCKS AND DAM

Mr. RABAUT. The next project is Maxwell locks and dam, which is also a new planning start. Please give us a brief statement on this project.

Colonel SMYSER. Maxwell locks and dam, together with raising of the dam at lock 4, provide the replacement of locks 5 and 6 in the middle Monongahela. That is one of the areas of intense traffic, and your existing lock 5 today practically runs 100 percent of capacity. There is continuous double lockage, and we have cases where there will be 48 hours without a single break in the tows passing through. The tonnage in the reach of this 1 lock in 1955—the last year of record—was over 24 million tons.

Mr. RILEY. Would these locks have an increased capacity, or would they simply be replacements?

Colonel SMYSER. No, sir; the Maxwell locks will replace two of the existing ones, and it will have a greater capacity because we are building a larger chamber so that what is now a double lockage will be a single lockage in the new structure.

Mr. RILEY. How much faster could you move the traffic if you replaced these locks?

Colonel SMYSER. You will save on an average for each lockage somewhere in the order of probably an hour and, of course, you replace 2 locks, you probably save at least 2 hours' time right there—probably 2 to 2½ hours minimum.

Mr. RILEY. Thank you.

Mr. RABAUT. The benefit-cost ratio for the Pike Island project which we just discussed is figured on that project as a single unit, but I notice there is a note after the ratio of 1.17 to 1 for this project, which reads: "for improvement of Middle Monongahela River."

Why is there not a benefit-cost ratio just for this project?

Colonel SMYSER. We have felt that this Middle Monongahela was really a unit. In other words, the traffic here, generally speaking, is so completely integrated together that one lock does not stand alone. In other words, it is a system and it is like building a highway between two cities: It is not a question of whether you build 10 miles. You must either build the whole thing or not build any.

MONONGAHELA RIVER PROJECTS

Mr. BOLAND. How many locks and dams do we have on the Monongahela River now?

Mr. FENTON. I was going to ask the colonel to go to the map and show us the various locks and dams to give us some idea about it.

Colonel SMYSER. Yes, sir. I will be very happy to.

As it starts out, the first lock in use on the Monongahela is lock No. 2. It is actually right at the Edgar Thompson steel works. Then we have locks 3 and 4, and 5 which is at Brownsville. The new lock will replace locks 5 and 6, and will be located here [indicating].

Then, here is lock 7. Lock 8 is just below Point Marion and then we have Morgantown lock. It is a new lock. Morgantown has no number. We then go up to the other new lock under construction, which is Hildebrand. Then, we have existing locks in here [indicating], 12, 13, 14, and 15. The plan for the Monongahela as a whole would be to have locks 2, 3, 4, Maxwell and Grays Landing, rebuilding lock 8, and then we will have Morgantown, Hildebrand and Opekiska. That would be the ultimate in replacing all the other smaller locks.

Mr. BOLAND. The plan is to maintain locks 2, 3, and 4 as they presently are except for the raising of the pool at lock 4?

Colonel SMYSER. Yes, sir.

Mr. BOLAND. Now, do you have to break the tows at locks 2, 3, and 4?

Colonel SMYSER. No, sir. Lock 2 at the present time is Ohio River standard width. Lock 2 is 720 feet by 110 feet. So, from the pool of lock 2 down you can use Ohio River standards.

Mr. BOLAND. How about locks 3 and 4?

Colonel SMYSER. Locks 3 and 4 are slightly smaller.

Mr. BOLAND. Would they require breaking of the tows?

Colonel SMYSER. Yes, sir.

Mr. BOLAND. Then, you envisage a plan for improving locks 3 and 4 some time in the future?

Colonel SMYSER. Let me check that, sir.

Sir, we have already altered lock 3. We have expanded that. So, we do have a double chamber, one of which is 56 feet by 720 feet. That will take the biggest tow that operates there.

In the case of lock 4 we have 1 chamber 56 feet by 720 feet. So, we carry through those two locks the biggest tows that travel the Monongahela River without breaking them.

MAXWELL LOCKS AND DAM

Mr. BOLAND. The only benefit that the Maxwell locks and dam would give would be the saving of time of 2 hours; is that right?

Colonel SMYSER. It is a savings in time on each. In addition to that, you have very old locks that are fast approaching the end of their life.

Mr. BOLAND. How much money would be required to put them in first-class condition without eliminating locks 5 and 6 and coming up with this Maxwell locks and dam?

Colonel SMYSER. It would practically be a rebuild job, and it would be very expensive, sir, because that would have to be done under traffic. Lock 5 consists of 2 twin chambers each of which are 56 feet by 360 feet.

Mr. BOLAND. I am not concerned about the fact that a tow is going to have to be broken and that it will take another 1.5 hours or 2 hours to get through the lock. That does not bother me. The thing that does bother me is the tremendous cost of these things.

You indicate these two locks are practically obsolete, and would require complete replacement. That would be a different story and, to me, a much better justification than just saving the barge companies an hour or two at the lock.

Colonel SMYSER. They are, sir. I question that we could actually rebuild both of these locks for the same price.

Mr. BOLAND. That is a good justification.

That is all, Mr. Chairman.

LOCAL CONTRIBUTION

Mr. JENSEN. I notice you require no local cooperation in this project.

Colonel SMYSER. Yes, sir.

Mr. JENSEN. That is the general situation, and I know that there is no revenue whatever to come into the Federal Government from the expenditure of all this money.

Colonel SMYSER. No, sir. There is no direct return, if you mean that.

Mr. JENSEN. That is what I mean.

Has the Corps of Army Engineers made any kind of a gesture, I might say, to the local interests as to whether they would be willing to participate in the cost of this project?

Colonel SMYSER. No, sir. On navigation projects where the benefits are strictly general to everyone who may traverse the waterway, we have never asked for a local contribution.

Mr. JENSEN. All right; that is all.

Mr. FENTON. The principal reason for this lock and dam is because of the deterioration of the other locks and dams?

Colonel SMYSER. Yes, sir; one was built in 1910 and the other was built in 1916, and both of them have had tremendous hard usage.

Mr. FENTON. What tonnage goes through there?

Colonel SMYSER. Sir, last year, or in 1955, at lock 5 it had 24,394,000 tons. Lock 6 had 14,954,000 tons, sir.

Mr. FENTON. What is the principal cargo?

Colonel SMYSER. The principal cargo is metallurgical coal, sir.

Mr. FENTON. That is to supply the steel mills?

Colonel SMYSER. The steel mills that start in pool 4, and are almost continuous all the way down to Pittsburgh.

Mr. FENTON. That is all, Mr. Chairman.

CALCULATION OF BENEFIT-TO-COST RATIOS

Mr. TABER. How do you figure these benefit-cost ratios on these projects?

Colonel SMYSER. Well, sir, it is generally composed of the following: First, we evaluate the time taken to go through the locks. In other words, there is an actual cost for tow boats just waiting. So we evaluate the delays. We also evaluate the increased cost of maintaining and operating the old locks as opposed to the cost of operating and maintaining new locks which replace one or more of the old ones and, finally, as I explained a minute ago on Pike Island, we do place an evaluation on any benefits which would accrue if we had deeper water.

In this case, as we are not changing the channel, there would be no change in that benefit here, but this one would be primarily on the benefits from delays and the change in operating and maintenance costs, sir.

Mr. TABER. How do you get anything like a savings of $3 million or $4 million a year out of this one project, and a savings of $8 million or $9 million out of the previous project?

Colonel SMYSER. There is substantially more traffic here. This lock, sir, handles, so far as I know—I am not aware of any other lock that handles more traffic than lock No. 5 at Brownsville.

Mr. TABER. That is this one at Maxwell?

Colonel SMYSER. It is No. 5 which will be replaced by Maxwell, sir.

Mr. TABER. That has more traffic that the others?

Colonel SMYSER. So far as I know right now I am not aware of any other that had almost 25 million tons in 1955.

Mr. TABER. What did the other one have just before that?

Colonel SMYSER. Pike Island, sir?

Mr. TABER. Yes, sir.

Colonel SMYSER. I have it here. It was just over 12 million, sir.

I have a chart here which I was reaching for which has that information on every lock in the Ohio.

COMPARISON OF PROJECT COSTS AND TONNAGE

Mr. TABER. What about this New Richmond lock and the traffic there?

Colonel SMYSER. In the pool of New Richmond the traffic there in 1955 was in the order of a little over 19 million tons, sir.

Mr. TABER. The Maxwell project is estimated to cost $28 million, and the Pike Island one is going to cost $67 million. The New Rich-

mond is to cost approximately $73 million, and your traffic in the New Richmond is estimated at 19 million tons with a cost of $73 million.

Your Pike Island project is estimated from the standpoint of traffic at 12 million tons with a cost of $67 million, and the Maxwell project is 25 million tons with a cost of $28 million.

It looks like it is going to be difficult to justify these higher prices.

Colonel SMYSER. Sir, there is no relationship between the price on the Monongahela and the price on the Ohio. Your big costs, sir, are the difference in the structures. On the Monongahela I am talking about locks which will be, say, 84 by 600 feet, with an auxiliary. I am talking about a dam which in a very narrow reach may be only 300 or 400 feet wide.

In the Ohio River I am talking about one of the main rivers of the United States, and I am talking about a lock which is 1,200 by 110 feet long with an auxiliary which is 600 by 110, and I am going to have a nonnavigable dam which will be in the order of, say, 1,100 to 1,200 feet wide.

In other words, we are not talking about the same class of structures, sir.

Mr. TABER. Yes; but you are talking about the same class of merchandise.

Colonel SMYSER. No, sir; we are talking about different merchandise. The Monongahela, as I pointed out, is above Pittsburgh, and the bulk of its tonnage—that is, the down traffic—stops in the Pittsburgh vicinity, being fabricated into steel. The Ohio River as a unit in the last year of record handled 71.5 million tons of cargo, and it is one of the major waterways in the United States.

Mr. TABER. I think that is true, but how much do you have in here now for starting new projects on the Ohio and its tributaries? You have structures that are going to cost away up into $300 million or $400 million, and that is just for 1 year's start.

It looks a little as though these things are becoming pretty hard to justify.

That is all I have.

Mr. RABAUT. I believe Mr. Kirwan has some questions.

Mr. KIRWAN. Yes, Mr. Chairman; I have a couple of questions. I am sorry that I was detained out in the hall for a little while, but I wanted to comment on the Pike Island locks and dam on the Ohio River and this Maxwell lock and dam on the Monongahela.

Colonel SMYSER. Yes, sir.

Mr. KIRWAN. What is the most essential thing on a river or anything in life? Is it time?

Colonel SMYSER. I would say so.

Mr. KIRWAN. Well, then, it is time which has you building the locks because the tows are waiting to get through there now?

Colonel SMYSER. It is that, sir, and the fact that it is not only the time now, but we face the possibility of a complete stoppage of traffic if we do not do something now. It is a question that we have already come to the end of the economic life of the structures, and it is better to replace them before they fail than it is to wait until you have a disastrous failure.

Mr. KIRWAN. That gets back to the time element again; does it not?

Colonel SMYSER. Yes, sir.

Mr. KIRWAN. If the lock fails or breaks down, it means that the tows have to lay out there longer until it is repaired, and time is the essence of the whole thing. In other words, keeping that traffic moving instead of tows having to waste time waiting while other tows are broken up and put through that one little space there, enabling them to get through without costly delays, is the essence of the problem. That goes for the Monongahela and for the Ohio as well. There is no river in the world which has the tonnage of the Ohio River; they simply do not have it.

Colonel SMYSER. No, sir.

Mr. KIRWAN. I am not speaking of the Ohio River as it flows through the State of Ohio alone, because it is an interstate river which flows through or along the borders of Indiana, West Virginia, Kentucky, and all the way on down. I happen to be located on one side of the river in Ohio.

PITTSBURGH

There is one other thing which I would like to ask you: Can you name for me another city which has had the money spent on it that Pittsburgh has had spent on it?

Colonel SMYSER. You mean by the local people?

Mr. KIRWAN. By the people of the United States. Pittsburgh is where the huge steel plants were built, and in order to make the production of steel cheap we in Ohio, the people in Massachusetts, and on down south, or wherever it may be—Iowa or Pennsylvania—have contributed to the city of Pittsburgh in order that Pittsburgh could manufacture steel cheaper than anyone else; is that correct?

Colonel SMYSER. I imagine that is so.

Mr. KIRWAN. I believe you said 24 million tons come through that lock on the Monongahela River.

That is up above Pittsburgh. That is on one side. We built the locks and dams for navigation and we built other dams to stop them from being flooded; but, like many other cities, there is one thing about Pittsburgh: they are true Americans. They do not want anyone else to share in it but Pittsburgh. The most patriotic people in the world are in the city of Pittsburgh. They say, "Do not give anything to any other town outside." They are for everything and anything that comes along just as long and only as long as it helps Pittsburgh.

Where did they get the name of Golden Triangle?

Colonel SMYSER. I would say because of the immense investments which are represented by the various corporations there.

Mr. KIRWAN. Pittsburgh is famous for the Golden Triangle, where the Allegheny and the Monongahela come together, but we have spent a billion dollars on Pittsburgh connecting it to its markets and its sources of supply with good navigation channels and protecting it from being flooded and everything like that. However, when we go to do something outside of Pittsburgh, the chamber of commerce up there comes in and claims we are wasting the taxpayers' money.

INCREASE IN RAIL TRAFFIC IN OHIO VALLEY

There is another thing which I want you to insert in the record. Put into the record at this point information as to what the railroads

are now handling as a result of the expansion of water transportation facilities in this area. I have been connected with the railroad industry for 20 years, having worked in the passenger and freight service, and having worked in the overseeing end of it.

Have not the railroad's increase in traffic kept abreast or beyond the river traffic? In other words, this is to show that the transportation on the rivers help the railroads.

Colonel SMYSER. The four class A railroads that parallel the Ohio have done better than the other class A railroads that do not parallel it.

Mr. KIRWAN. Therefore, when you spend money on the rivers, among those that get the benefits are the railroads. You have 4 railroads running right alongside the Ohio River and those 4 have kept abreast.

You say we gained from 50 million tons on the river in 1950 to 71.5 million tons or that it is approaching 71.5 million tons now?

Colonel SMYSER. Yes, sir.

Mr. KIRWAN. In 1950 you had 50 million tons; did you not?

Colonel SMYSER. That is correct, sir.

Mr. KIRWAN. Now you have 71.5 million tons. If you will get that information on the increase in rail freight movements we will insert that into the record at this point.

Colonel SMYSER. All right, sir.

(The information requested follows:)

Annual railroad revenue traffic, 1950 to 1955, inclusive

Year	All class I railroads in United States	Class I railroads in Ohio River Valley (selected)			
		Baltimore & Ohio	Chesapeake & Ohio	Louisville & Nashville	Norfolk & Western
1950.....1,000 short tons	2,570,000	115,766	114,358	63,051	68,283
Relation to 1950.....percent	100	100	100	100	100
1951.....1,000 short tons	2,791,000	126,675	123,280	70,713	71,744
Relation to 1950.....percent	108	110	108	112	105
1952.....1,000 short tons	2,626,187	116,577	112,717	64,155	66,756
Relation to 1950.....percent	102	101	98	102	98
1953.....1,000 short tons	2,612,624	119,140	109,660	67,616	63,731
Relation to 1950.....percent	102	103	96	107	93
1954.....1,000 short tons	2,298,000	97,551	96,381	60,599	56,322
Relation to 1950.....percent	89	84	84	96	82
1955.....1,000 short tons	2,624,882	115,290	121,713	[1] 61,069	70,410
Relation to 1950.....percent	102	100	106	97	103

[1] 2-month strike of nonoperating employees.

PITTSBURGH

Mr. KIRWAN. I want to return for a moment to what we were discussing a few minutes ago. No one has had the American dollars showered on them like the city of Pittsburgh, by the rest of the people, whether they are in New England or where. We certainly gave them money like no other city in the country received.

I know that you are in no position to detail everything that the people of the United States have spent their money on to make Pittsburgh what it is, but I wish you would check to see just how much money we have spent just on locks and dams which make transportation cheap for Pittsburgh and which protect it from being flooded every year. And just to be sure we are on the ultraconservative side don't include the cost of locks downstream from Pittsburgh.

Colonel SMYSER. All right, sir.

Mr. KIRWAN. We have done everything in the world for them and made Pittsburgh the heart of America.

(The information requested follows:)

The total funds expended to date for navigation projects and flood control reservoirs on the Allegheny and Monongahela River Basins above Pittsburgh total $167,264,000.

IMPROVEMENTS WITH NEW LOCKS AND DAMS

Mr. RABAUT. These new dams are much longer than the old ones; are they not?

Colonel SMYSER. Yes, sir; the locks, sir, are much longer.

Mr. RABAUT. The locks are longer, and they save labor and the delay in time of breaking up the tows?

Colonel SMYSER. Yes, sir.

Mr. RABAUT. And that is a considerable savings to the people who operate the tows.

Colonel SMYSER. With the double lockages you not only have to break your tow but the first section has to be pulled out of the lock mechanically. In other words, the boat is not there to push it. You have to pull it out and then you have to put the second section in and take it though, and couple it up and get it out of the approach and until they do that, no one else can use the lock.

Mr. RABAUT. Under the new system they would go out under power?

Colonel SMYSER. Under the new system, as far as we can foresee, there will be no tows on the Ohio River which will not be able to transit the big locks with a single lockage.

NO. 2 BARREN RESERVOIR

Mr. RABAUT. The next planning project is No. 2 Barren Reservoir, which has a benefit-cost ratio of 2.3 to 1.

This was authorized in 1938.

Why has it been so long getting started? Has there been local opposition?

Colonel SMYSER. Sir, there was local opposition, but not directly to this project.

The original plan for the Green River involved a series of reservoirs, one of which was called Mining City. We felt it had the greatest benefits. We studied that for several years. However, there was intense local opposition to it primarily because it was felt that at high water it would flood some of the caverns at Mammoth Cave, Ky.

Finally, when it appeared that the local opposition would never be reconciled to building Mining City, we began a study of the other reservoirs in the Green River Basin, and Nolin has already been appropriated planning funds and Barren No. 2 follows as the next step.

Mr. RABAUT. Is this in a different location than it was planned originally?

Colonel SMYSER. No, sir; this is approximately the same location, but Mining City, which is another reservoir, which we feel we will never build now, was one of the elements of planning and, as indicated, Mining City was our choice.

RECENT FLOODS

Mr. RABAUT. What floods have occurred in this area in recent years, and what has been the extent of the damage?

Colonel SMYSER. We have had in recent years floods in 1945; we had floods, of course, in 1937, and floods in 1913, as well as floods in 1948. Those were the major floods.

Mr. RABAUT. What was the extent of the damage?

Colonel SMYSER. Those are the major floods. Getting back to 1913, we had floods which caused damage somewhere in the order of $1,500,000 on the Green River, and the Barren. Then, in 1937 there was a major flood on the Green and Barren which caused damage to the extent of $1,950,000.

In March of 1945 the floods were in the order of $950,000.

In 1948 the floods were in the order of $800,000.

Mr. RABAUT. How much of the damage would have been prevented had this installation been in there?

Colonel SMYSER. On the same major floods, preventable under present conditions, we would have had for the 1913 flood, $855,000.

Mr. RABAUT. As against what?

Colonel SMYSER. I had better give those damages on the same basis, sir. On the same basis of the price of the time of occurrence it would be $260,000 as opposed to $1,500,000.

Mr. RABAUT. The figures you just quoted then are the figures predicated upon today's prices.

Colonel SMYSER. No, the figure I quoted, I made compatible. I have not changed. I have not escalated them up. You have a fair comparison.

Mr. RABAUT. Would it be about a third?

Colonel SMYSER. It runs a third or something in that order. Some are bigger than others. For instance, in the 1945 flood, against $950,000, it would have prevented very close to $90,000 worth of the damage, and in the case of the 1948 flood, against a little over $800,000, it would have prevented nearly $320,000.

Mr. RABAUT. Do you have another project on the Green River?

Colonel SMYSER. Yes, sir. Nolin Reservoir is also in the Green River Basin.

Mr. RABAUT. The two of them together would be of the greatest protection.

Colonel SMYSER. Yes, sir. I have them broken down.

Mr. RABAUT. Will you give one example of protection with the one, and protection with the both of them?

Colonel SMYSER. I can give you that.

Mr. RABAUT. You may supply that for the record. Give us one example here.

Colonel SMYSER. Yes, sir.

In other words, take the Nolin Reservoir, sir. The maximum flow at the dam site was 43,300 cubic feet per second. That was in January 1937. It caused a damage of $14,100,000. That is at current prices, of which $6,800,000 would have been in the Green Basin.

On the Barren, its maximum was 44,800 cubic feet per second in March of 1952. That was a major one. It caused $2,027,000 worth of damage.

Mr. RABAUT. On these you are going to supply the information that I requested for the record?

Colonel SMYSER. Yes, sir.

(The information to be furnished follows:)

Examples of damage prevented in the Green River Basin by Barren No. 2 Reservoir acting alone and by Barren No. 2 and Nolin Reservoirs acting together on representative floods follow:

Flood	Estimated flood damage in Green River Basin below reservoirs	Damages prevented by No. 2 Barren alone	Damages prevented by No. 2 Barren and Nolin Reservoirs acting together
February 1956	$1,688,000	$252,000	$453,000
March 1955	1,832,000	599,000	922,000
March 1952	2,200,000	741,000	1,224,000
December 1951	1,306,000	324,000	659,000

Mr. RABAUT. Is there any consideration given to including power in these?

Colonel SMYSER. No, sir. These are all for flood control only.

Mr. RABAUT. It was thought of in the past.

Colonel SMYSER. Yes, sir; but it is not any more.

Mr. EVINS. I note the appropriation request for $50,000 is carried in the budget, yet the Corps of Engineers has advised one of our colleagues that about $100,000 more would complete all of the preconstruction planning preparatory to the construction of this project. Is that your information, Colonel Smyser?

Colonel SMYSER. Yes. $120,000 additional will complete the preconstruction planning.

Mr. EVINS. Would you tell the committee about the flood damage in that basin for the past few years, both in the loss of property and loss of lives?

Colonel SMYSER. In the last 5 fiscal years we have had floods as follows on the Barren River:

We had one in February 1956 which caused a very small amount of damage, $32,000. Farther down on the Green there was damage of $1,560,000. Also, in February 1956, we had another crest which caused $17,000 on the Barren itself and $500,000 on the Green River.

In March 1955, on the Barren River, we had damages of $58,000, and on the Green $1,700,000.

In March of 1952, on the Barren River, $77,000; on the Green River, $1,950,000.

Mr. EVINS. In other words, the Barren and the Green Rivers have been out of control many times during the past several years, and there has been repeated flood damage?

Colonel SMYSER. Correct, sir.

Mr. EVINS. I have a statement here that says:

> We have suffered floods throughout the last 15 years in my section, which is known as the Green River Valley. We lost 104,000 people from 1940 to 1950.

Colonel SMYSER. They moved out because of the depressed economic conditions that have been occasioned by these floods.

Mr. EVINS. You have detailed the dollar damage but you do not have available the figures regarding loss of life?

Colonel SMYSER. The loss of life has actually been small, sir.

Mr. EVINS. You could reasonably and efficiently use an additional $100,000 on this project in the next year to complete preconstruction planning?

Colonel SMYSER. Without regard to any other part of the program, we would use an additional amount of money for planning on this reservoir, sir.

Mr. EVINS. Is the corps in a position in the State of Kentucky where this project is located to be able to transfer $50,000 from each of two other projects where there are large appropriations to thereby increase the amount for this project without increasing the budget?

Colonel SMYSER. If we were so directed, I am sure we could do it.

Mr. EVINS. It is your testimony, Colonel Smyser, that damage in this area has been repeated and extensive and that an additional amount of money could be efficiently used in the next year to complete the preconstruction planning?

Colonel SMYSER. I could use additional funds, sir. I do not feel that I can testify that I would be able to complete all the preconstruction planning next year. Additional funds could be used to advance the preconstruction planning.

Mr. EVINS. An additional amount of $100,000 or $120,000?

Colonel SMYSER. $50,000, sir.

Mr. EVINS. Another $50,000 additional is all that you could efficiently use?

Colonel SMYSER. I feel that is all that I can testify that I could efficiently use.

Mr. EVINS. Thank you. That is all that I have on this project.

PROJECTS ON THE BIG SANDY RIVER

Mr. KIRWAN. I have received some information that the Corps of Engineers are now ready to recommend planning money for some reservoirs on the Big Sandy River that were authorized under the comprehensive Flood Control Act of 1938.

How much planning money, and for what reservoirs, do you recommend in this area where the recent flood did so much damage?

Colonel SMYSER. Part of the comprehensive plan for the Ohio Basin included three reservoirs on the Big Sandy River—Fishtrap, Clintwood, and Haysi. Those three projects have recently been in the deferred-for-restudy category. As a result of the recent review of the flood-control benefits which those reservoirs would accomplish, we have recommended that Fishtrap be definitely placed in the status of an active project. It has already been authorized by Congress and we feel that the information, particularly after the flood of this year, showed clearly that it, for flood control only, is a valid project.

In the case of Pound, which is a substitute for the Clintwood Reservoir, we have also recommended that it be placed in the active category, subject to not proceeding with planning beyond the point which would permit us to include power, if the Big Sandy report were to show that it was justified, and Congress should approve the project.

In the case of Haysi, at this time we have made no recommendation for a change in the status, since the Big Sandy report will be submitted by the 30th of June of this year, and at that time we will have more data to tell whether or not it is justified for flood control only.

Mr. KIRWAN. You recommend 2 of the 3 go forward?

Colonel SMYSER. Yes, sir; put in the active status, sir; which means we are prepared, if planning funds are made available, to utilize them.

Mr. KIRWAN. That is all, Mr. Chairman.

Mr. BOLAND. What is the benefit-cost ratio on Fishtrap and Pound?

Colonel SMYSER. I would have to supply that for the record, sir.

(The information to be furnished follows:)

The benefit-cost ratio for Fishtrap Reservoir is 1.13; and the benefit-cost ratio for Pound Reservoir is 1.97.

CONSTRUCTION

MARKLAND LOCKS AND DAM

Mr. RABAUT. We will take up construction. There is $69,284,000 requested for 19 projects. The first is Markland locks and dam on the Ohio River, Ky., Ind., and Ohio.

Put pages 23 through 25 in the record.

(The justifications referred to follow:)

MARKLAND LOCKS AND DAM, OHIO RIVER, KY., IND., AND OHIO

(Continuing)

Location.—The project is located in the vicinity of Markland, Ind., 61 miles below Cincinnati, Ohio.

Authorization.—1909 River and Harbor Act (sec. 6).

Benefit-cost ratio.—2.2 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$69,000,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	69,000,000	
Appropriations to June 30, 1956	1,690,000	
Appropriations for fiscal year 1957	5,000,000	
Appropriations to date	6,690,000	10
Appropriations requested fiscal year 1958	9,500,000	24
Balance to complete after fiscal year 1958	52,810,000	

PHYSICAL DATA

Dam:
- Type: Nonnavigable, gate controlled.
- Length, feet: 1,416.
- Gate, number, 12.
- Length, clear span in feet, 100.
- Damming height in feet, 40.

Locks:
- Number, 2.
- Size of chambers, feet:
  - Main lock, 110 by 1,200 feet.
  - Auxiliary lock, 110 x 600 feet.
  - Normal lift, feet, 35.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	2	June 30, 1961
Relocations	0	June 30, 1961
Reservoirs, pool preparation	0	Mar. 31, 1962
Dams	0	Dec. 31, 1961
Locks	10	Dec. 31, 1958
Channels	35	Sept. 30, 1961
Buildings, grounds, and utilities	0	June 30, 1961
Entire project	5	Mar. 31, 1962

JUSTIFICATION

The project will replace 5 existing Ohio River locks and dams (Nos. 35, 36, 37, 38, and 39), incorporating modern lock facilities comprising 2 parallel chambers 110 feet wide by 1,200 feet long and 110 feet wide by 600 feet long in lieu of the single 110- by 600-foot obsolescent locks now in service at each of the existing structures to be eliminated. By the time the Markland project can be completed, 3 of the existing structures will have been in service from 40 to 50 years and the other 2 about 35 years. All of the structures to be replaced will require major repairs within the next few years and some elements of them probably will require reconstruction. Lock and dam 37 has deteriorated to such an extent that major repairs would be required at excessive cost. Failure of this structure would cause very serious and extensive disruption of traffic in the heavily traveled Cincinnati reach of the river.

The existing structures were designed and built principally for downstream coal movement. During the period since their construction, the character of the traffic has changed considerably until now the upstream and downstream tonnage is approaching equality. Moreover, the existing locks are not adequate to handle efficiently the modern type of tows and the volume of traffic now using the river. Many tows exceed the 600-foot length of the existing locks and must be broken and put through in sections. This situation results in substantial delays and causes difficulties when other tows arrive at the locks and have to wait their turn.

The Markland pool will combine 5 existing pools into 1 unbroken reach of river some 95 miles long. In this reach is located the Cincinnati Harbor area, with terminals and rail transfer points distributed along some 25 miles of riverfront. Also in this area, are four large steam-electric plants which receive their coal supplies by river.

Traffic on the Ohio River has doubled in the last 10 years and all indications are that the growth in traffic will continue for many years and may be accelerated by the rapid industrial expansion now taking place in the valley. However, construction and maintenance of adequate navigation structures to accommodate modern towing equipment is essential to the continued development of the area and to meet the growing need for economical transportation of the bulk and finished products of the area.

Fiscal year 1958.—The requested amount of $9,500,000 will be applied to—

Continue acquisition of lands	$550,000
Continue construction of locks	7,500,000
Continue dredging lock approaches	300,000
Initiate relocation of railroads and utilities	250,000
Engineering and design	300,000
Supervision and administration	600,000
Total	9,500,000

The continued acquisition of lands is required prior to the commencement of the dam construction. Continued construction of the locks is required to meet the date for initiation of work on the dam and to permit the completion of the project in an economical and orderly manner and the initiation of work on relocations is required in order to meet the closure date of the dam.

Non-Federal costs.—Local interests will incur no costs for direct local participation. Present knowledge of the nature of modifications which will be undertaken by owners of affected facilities is not sufficient to permit a firm evaluation. In some instances, modifications doubtedlessly will be held to the minimum

necessary to adapt existing facilities to new project conditions, while in other instances owners may use the necessity for adaptation as an opportunity to improve or modernize their facilities substantially. Undoubtedly, the cost required by change in project conditions will be relatively small to individual owners.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $69 million is a decrease of $4,600,000 below the latest estimate ($73,600,000) submitted to Congress. The features, locks and channels, have been decreased $5,860,000 due to favorable bids received for the lock and approach channel. Supervision and administration has been decreased $927,000 based on reanalysis of requirements. The costs of the dam, lands and damages, relocations, reservoir, and other minor features have been increased $2,187,000 to reflect prevailing prices for these types of work.

GREENUP LOCKS AND DAM

Mr. RABAUT. Next is Greenup locks and dam, Ohio River, Ky. and Ohio.

Put pages 29, 30, and 31 in the record.

(The justifications referred to follow:)

GREENUP LOCKS AND DAM, OHIO RIVER, KY. AND OHIO

(Continuing)

Location.—In Ohio River, 341 miles below Pittsburgh, Pa., in Greenup County, Ky., and Scioto County, Ohio, and near the municipality of Greenup, Ky.

Authorization.—Section 6, 1909 River and Harbor Act.

Benefit-cost ratio.—1.79 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$60,900,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	60,900,000	
Appropriations to June 30, 1956	6,420,000	
Appropriations for fiscal year 1957	9,900,000	
Appropriations to date	16,320,000	27
Appropriations requested for fiscal year 1958	13,500,000	49
Balance to complete after fiscal year 1958	31,080,000	

PHYSICAL DATA

Locks:
Main lock: 110 by 1,200 feet.
Auxiliary lock: 110 by 600 feet.
Normal lift: 32 feet.

Dam:
Type: Nonnavigable, gate controlled.
Length: 1,269 feet.
Damming height: 35 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	6	June 1960.
Relocations	7	December 1959.
First stage construction: cofferdam for locks	100	August 1955.
Locks	40	June 1959.
Dam	0	December 1959.
Reservoir: Removing existing structures	0	April 1960.
Channel dredging	0	June 1958.
Entire project	18	June 1960.

JUSTIFICATION

The project will provide for the replacement of four existing locks and dams on the Ohio River and one on the Big Sandy River, all of which will have reached or approached the end of their useful economic life by the time the Greenup project can be completed. The existing facilities are not adapted to accommodate large modern tows which must be separated for each lockage, then reassembled. Forty percent of the total traffic time required in moving cargo along the reach of the river served by locks 27 through 30, a distance of 60 miles, is consumed in passing through the four locks. Of the time required to pass the four locks, approximately 25 percent represents time lost waiting for other tows to clear the locks. With the proposed new facilities, almost all such traffic delays will be eliminated and locking time for modern transportation equipment will be reduced from approximately 6 hours to about 20 minutes.

The reach of the Ohio River which is affected by the construction of the Greenup project is the busiest on the Ohio River and one of the busiest on the entire inland waterway system. In 1955, traffic in the Greenup pool exceeded one billion ton-miles, an increase of about 24 percent over 1954. Tonnage increases were about of equal magnitude. The efficient and uninterrupted river transportation of such commodities as coal, petroleum, steel products, and chemicals, to, from and through this area is highly important in normal times and the importance is greatly increased in times of national emergency.

A record high of 71,461,000 tons was moved on the Ohio River in 1955, indicating that traffic has doubled in the past 10 years. All indications are that the growth in traffic will continue for many years and may be accelerated by the rapid industrial expansion now taking place in the Ohio River Basin. Construction and maintenance of adequate navigation structures to accommodate modern towing equipment is essential to the continued development of the area and to meet the growing need for economical transportation of bulk and finished products.

Fiscal year 1958.—The requested amount of $13,500,000 will be applied to—

Continue construction of the locks	$7, 033, 200
Complete construction of No. 1 cofferdam for dam construction	200, 000
Initiate construction of the dam	300, 000
Continue acquisition of lands	800, 000
Continue relocation program	3, 625, 000
Dredging of lock approaches (initiate and complete)	580, 000
Engineering and design	261, 800
Supervision and administration	700, 000
Total	13, 500, 000

Funds are required to complete construction of the locks proper under a continuing contract awarded in September 1955, to complete construction of the No. 1 cofferdam for dam construction under a continuing contract to be awarded in May 1957, to initiate construction of the dam and lock guard walls, dredge locks approaches, and to permit the project to proceed on an economical schedule. Acquisition of lands should continue as rapidly as practicable because of the large number of tracts to be negotiated for prior to raising the pool, and the extensive relocation program should be continued as rapidly as practicable in order not to extend the final completion date for the entire project.

Non-Federal costs.—Local interests will incur no costs for direct local participation. However, the new project will affect and require modification of certain existing facilities, such as terminal piers and docks, water intakes, submerged

utility lines, and similar structures and facilities which were constructed under permit within the purview of section 10 of the River and Harbor Act approved March 3, 1899. It will be the responsibility of the owners to adapt those facilities to new project conditions without cost to the United States. It is anticipated that costs will be relatively small to individual owners.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—Current project estimate ($60,900,000) is the same as last presented to Congress. Changes involved for individual features were a price level increase of $770,000 and an increase of $500,000 for construction and for lands and damages based on more detailed studies. These increases were offset by decrease of $640,000 in relocations reflecting consummation of an agreement with the N. & W. Railroad Co. and reevaluation of Government costs for supervision and administration which resulted in a further decrease of $630,000.

RECONSTRUCTION OF LOCK AND DAM 41

Mr. RABAUT. The next project is reconstruction of lock and dam 41, on the Ohio River, Ky. and Ind.

Put pages 35, 36, and 37 in the record.

(The justifications referred to follow:)

RECONSTRUCTION OF LOCK AND DAM 41, KY. AND IND.

(Continuing)

Location.—Lock and Dam 41, which will be reconstructed, is located on the Ohio River at Louisville, Ky., 606 miles below Pittsburgh, Pa.

Authorization.—1909 River and Harbor Act (sec. 6).

Benefit-cost ratio.—3.5 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$54, 200, 000	
Estimated non-Federal cost	308, 000	
Cash contributions	0	
Other costs	308, 000	
Other estimated project cost	54, 508, 000	
Appropriations to June 30, 1956	150, 000	
Appropriations for fiscal year 1957	[1] 1, 033, 000	
Appropriations to date	1, 183, 000	2
Appropriations requested for fiscal year 1958	4, 000, 000	10
Balance to complete after fiscal year 1958	49, 017, 000	

[1] Includes permanent transfer to the project of $133,000.

PHYSICAL DATA

Dam:
- Type: nonnavigable.
- Length, feet: 2,754.
- Damming height in feet: 37.

Locks:
- Number: 1.
- Size of chamber, feet: 110 by 1,200.
- Normal lift, feet: 37.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	0	Dec. 31, 1958.
Relocations	0	Dec. 31, 1959.
Reservoir	0	June 30, 1962.
Dam	0	Do.
Locks:		
Completion	0	Mar. 31, 1961.
New lock in operation	0	Sep. 30, 1959.
Channels	0	Jan. 31, 1960.
Entire project	0	June 30, 1962.

JUSTIFICATION

Reconstruction of lock and dam 41, upon completion, will continue and extend the benefits derived from existing navigation facilities. The proposed 1,200-foot lock will eliminate the necessity for making double lockages now required by about 25 percent of present tows with the existing 600-foot lock and will thereby reduce the present lockage time. Additional delay will be eliminated by the proposed increase in width of the upstream channel approach, which is too narrow to permit the large tows now in vogue to pass one another under present conditions. The proposed modifications will eliminate the bottleneck in the Ohio River navigation system which already exists at this site and which is rapidly becoming worse.

Tonnage passing through the locks during 1955 exceeded 15 million tons and continuing increases are indicated by industrial development in the region. Coal shipments in particular have been substantially augmented with completion of steam-electric plants along the Ohio River. The Ohio Valley Electric Corp., has recently completed a steam-electric generating plant near Madison, Ind., to serve installations of the Atomic Energy Commission. This plant uses about 4 million tons of coal per annum. The coal is moving to the plant from mines in southern Indiana and western Kentucky by river and thus must pass through lock 41. Exclusive of this abnormal increase in coal tonnage during the past 2 years, the average increase in tonnage passing through lock and dam 41 during past years has been about 500,000 tons per annum. A continuing average annual increase of 500,000 tons, assuming the annual fuel demand of the powerplant to be fully satisfied, indicates that the traffic through lock 41 will reach the practical locking capacity of the existing works, estimated at about 18,840,000 tons per annum by 1962.

Fiscal year 1958.—The requested amount of $4 million will be applied to—

Continue acquisition of lands	$100,000
Initiate relocations	900,000
Initiate construction of locks	2,549,600
Engineering and design	233,000
Supervision and administration	217,400
Total	4,000,000

The funds requested in the fiscal year 1958 are required to initiate construction on the lock for which a continuing contract for cofferdam steel was awarded November 15, 1956 and a continuing contract for the lock construction is scheduled to be awarded in July 1957, and to permit the project to proceed at an economical rate. Relocations will be initiated at the earliest practicable date in fiscal year 1958 in order to meet the presently scheduled date for placing the new lock, so urgently needed, in operation.

Non-Federal costs.—The construction, operation and maintenance of lock and dam 41 project would not require direct local participation. The Pennsylvania Railroad Co. will be expected to participate in modification of its bridge in the approach to the new lock. In this case, the principles of apportionment of cost contained in the act of June 21, 1940 will be applied. It is estimated that costs so incurred by the Pennsylvania Railroad Co. will approximate $308,000. The maintenance of this bridge would continue to be the responsibility of the railroad company.

Status of local cooperation.—The matter of participation by the Pennsylvania Railroad Co. in bridge alterations will be determined as detailed planning for this feature progresses.

Comparison of Federal cost estimate.—The current project estimate ($54,200,000) is the same as the latest estimate submitted to Congress. However, estimates for individual features making up the total estimate have been changed. These changes have been made in the estimates for the dam, new lock, channels and canals, and direct Government costs, due to a reanalysis during planning.

Mr. RABAUT. The budget request last year was for $150,000 in planning funds. Congress appropriated this, and an additional $750,000 for initiation of construction.

I notice that on top of this increase, there has been a permanent transfer of $133,000 to the project, so it is progressing very well.

Colonel SYMSER. It is, sir.

Mr. RABAUT. Are there any new developments, other than speeding up the project, since it was presented a year ago?

Colonel SMYSER. There are no new changes, sir, that I feel at this time would be of interest to the committee.

Mr. RABAUT. The project is going along to your satisfaction?

Colonel SMYSER. Yes, sir. We have actually been able to obtain the steel for our coffer dam. We were able to get a contract last November. The steel sheet piling will be delivered on schedule. We will be able to advertise for the construction of the coffer dam and the locks and we will have the steel on hand for the contractor.

NEW CUMBERLAND LOCKS AND DAM

Mr. RABAUT. The New Cumberland locks and dam, Ohio River, Ohio and W. Va.

Put pages 41 through 44 in the record.

(The justifications referred to follow:)

NEW CUMBERLAND LOCKS AND DAM, OHIO RIVER, OHIO AND W. VA.

(Continuing)

Location.—The site of the locks and dam is in Jefferson County, Ohio, and Hancock County, W. Va., on the Ohio River at Stratton, Ohio, about 54.4 miles below the head of the river at Pittsburgh, Pa.

Authorization.—1909 River and Harbor Act (sec. 6).

Benefit-cost ratio.—1.69 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$43,100,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	43,100,000	
Appropriations to June 30, 1956	8,244,000	
Appropriations for fiscal year 1957	[1] 6,800,000	
Appropriations to date	15,044,000	35
Appropriations requested for fiscal year 1958	5,500,000	48
Balance to complete after fiscal year 1958	22,556,000	

[1] Excludes permnent transfer from project of $1,200,000.

PHYSICAL DATA

Dam:
Type: High lift, gated-crest, nonnavigable.
Length: 1,309.5 feet.
Gates:
10 100-foot Sidney gates.
2 100-foot submergible lift gates.
Locks: Parallel chambers:
110 by 1,200 feet riverward chamber.
110 by 600 feet landward chamber.
Lift: 22.6 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	34	December 1959.
Relocations	28	September 1958.
Pool preparation (reservoirs)	0	June 1960.
Dam	0	February 1960.
Locks	16	December 1958.
Channel	12	February 1960.
Entire project	12	June 1960.

JUSTIFICATION

The Ohio River is one of the most important inland waterways of the world. It is the vital link between the northern industrial States, such as West Virginia, Pennsylvania, and Ohio, and the South and southern gulf ports. The products which it bears in vast quantities are iron and steel; coal and coke for the manufacture of iron and steel; fuel oil, gasoline, and other petroleum products; sulfur; limestone; and iron and steel scrap. Tonnages of traffic are very large and have been constantly increasing. For example, in 1945 annual tonnage was about 34 million, in 1950 it approached 50 million tons, and in 1955 it was approximately 71 million tons, of which over 13,500,000 tons consisting mainly of coal, sand and gravel, oil and gasoline, and iron and steel products, passed through the project area.

The basic iron and steel industry is dependent upon river transportation via the Ohio River. Steel manufacturers at Pittsburgh, Pa., Weirton, W. Va., Steubenville, Ohio, Wheeling, W. Va., etc., use the river extensively to ship their finished products. The heavy concentration of steel production below Pittsburgh receives practically all of its requirements of coking coal in barges which traverse the Ohio and much of its limestone and other important operating supplies are delivered in the same manner. Their dependence upon river transportatiou is not merely a matter of operating economy, but if river shipments were halted for any appreciable length of time, other methods of freight carriage could not begin to supply the tonnage requirements of the steel producers.

All the coal and other raw materials for steel which move from the mines and other sources of supply above Pittsburgh to the important steel-producing areas in West Virginia, Ohio, and Kentucky must pass through Ohio River locks and dams 7, 8, and 9. The same is true of important finished products manufactured in the industrial sections of Pennsylvania, and of other commodities which are transported in both directions. These locks and dams are the keys to navigation in the area and any interruptions to service through them would paralyze commerce and production in the most important industrial center of the United States.

Locks 7, 8, and 9, which were constructed in the period 1904–14, are inadequate, not only because they are single locks of limited length, but also because they are in badly deteriorated condition from an operating point of view. It is possible that any one of them may have to be closed for repairs at any time because of a major failure, which would be disastrous for the essential traffic which moves through these sections of the Ohio River. The landward wall of the lock chamber at lock 7 is one example of the need for extensive reconstruction, if the present structures are to continue in service. This wall has been slowly, but progressively, subjected to a sustained riverward movement. Should the wall fail, costly repairs would result to a structure obsolete in design, and prolonged suspension of navigation might result through the only lock available at this dam.

New Cumberland locks and dam will replace existing locks and dams 7, 8, and 9, which have neared the end of their economic life and cannot be expected to long

continue to operate. Replacement of these obsolete locks will not only decidedly improve navigation conditions on the important Ohio River but will insure non-interrupted traffic in the most important industrial center of the United States.

Fiscal year 1958.—The requested amount of $5,500,000 will be applied to:

Continue acquistion of land	$135, 000
Continue relocations	588, 600
Continue construction of dam	1, 100, 000
Continue construction of locks	2, 975, 000
Complete lock approach channels	359, 700
Engineering and design	20, 000
Supervision and administration	321, 700
Total	5, 500, 000

Early completion of the project is essential due to the inadequacy and badly deteriorated condition of existing locks and dams 7, 8, and 9 which the project will replace. Progress as scheduled is also essential because of the relationship of the project with the Ohio Edison Co. program for erection of a steam powerplant at the upper end of the project site. An orderly advancement of land and relocation work must also be maintained in relation to scheduled cosntruction progress on the locks and dam so that acquisition of flowage easements and relocations in the pool area will be completed prior to scheduled starting of the closure section of the dam.

Non-Federal cost.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $43,100,000 is the same as the latest estimate submitted to Congress. However, the estimates for individual features making up the total estimate have changed. The price level rise accounts for an increase of $823,600, which was offset by a corresponding decrease in the estimated costs for supervision and administration, following a reanalysis of the requirements.

Mr. RABAUT. Last year's budget request was for $10 million for this project. This was reduced by a supplemental estimate to $8 million, which was appropriated.

How much of that $8 million does it now look like you will obligate?

Colonel SMYSER. We took $1,200,000 from the project and I am going to carry over a substantial balance this year, unobligated, of roughly $2¼ million.

Mr. RABAUT. $2¼ million?

Colonel SMYSER. $2.225 million, to be exact.

Mr. RABAUT. What is the cause of that?

Colonel SMYSER. It goes back, sir, to the original initiation of the contract for the lock in November of 1955. The contractor's schedule was predicated upon being able to start work as soon as State Highway No. 7 was relocated. Instead of it being relocated as planned, it was several months delayed. Meanwhile the contractor could not get access to the site.

Mr. RABAUT. This year's budget request is $5.5 million, but you have advised the committee your latest estimate is that you can efficiently use only $4.5 million.

Colonel SMYSER. Yes, sir.

Mr. RABAUT. You do not think you could do any better than that, do you?

Colonel SMYSER. No, sir. I think I had better stand on that.

Mr. RABAUT. The justifications on page 43 say, "Progress as scheduled is also essential because of the relationship of the project with the Ohio Edison Co. program for erection of a steam powerplant at the upper end of the project site."

From that statement one would think that this delay in the schedule is rather serious. Is that correct?

Colonel SMYSER. It is not serious yet, sir. It is not what we wanted, but the same contractor is doing part of the work for the Ohio Edison Co., and therefore, the general slowup—in other words, he was slowed up on starting our work, but he has not gone too fast on theirs, so I think they are still in general accord.

Mr. RABAUT. Has he too much work for his capabilities?

Colonel SMYSER. No, sir. He has not too much work. Actually it was a convenience to us because the spoil he was taking out of where we were excavating the high cofferdam, the Edison Co. was giving him a place to dump it. We were using one against the other.

Mr. RABAUT. That is a good idea.

DAM 8 (RAISE CREST)

We will go next to the project for raising of the crest of dam 8 on the Monongahela River, Pa. and W. Va.

We will put pages 48 through 50 in the record.

(The justifications referred to follow:)

DAM 8 (RAISE CREST), MONONGAHELA RIVER, PA. AND W. VA.

(New)

Location.—Existing lock and dam No. 8 is located in Fayette and Greene Counties, Pa., on the Monongahela River, about 90.8 miles above the mouth of the river at Pittsburgh, Pa.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—1.86 to 1 (for improvement of upper Monongahela River).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$3,650,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	3,650,000	
Appropriations to June 30, 1956	68,000	
Appropriations for fiscal year 1957	[1] 57,000	
Appropriations to date	125,000	3
Appropriations requested for fiscal year 1958	1,000,000	31
Balance to complete after fiscal year 1958	2,525,000	

[1] Made available from prior-year funds.

PHYSICAL DATA

Dam:
- Type: Gated crest, nonnavigable.
- Length: 560 feet.
- Gates: Six 70-foot Sidney gates.
- Fixed weirs: One at each end of dam.
- Lift: 19 feet.

Navigation channel: 9 feet deep and 300 feet wide.
Length of pool: 11.2 miles.
Status: (January 1, 1957): New start.
Completion schedule:
- Lands and damages, June 1958.
- Relocations, June 1958.
- Pool preparation (reservoirs), June 1959.
- Dam, June 1959.
- Lock, November 1957.
- Entire project, June 1959.

JUSTIFICATION

Restricted depth in the upper reach of pool 8 prohibits the movement of traffic of the character for which the river is suitable for its full length below dam 8 and throughout the Morgantown Pool next upstream. The immediate necessity of raising the crest of dam 8 is to provide 9-foot channel depth for the full length of the pool to permit traffic to fully benefit from the recently completed Morgantown lock and dam project. Under existing conditions, barges navigating pool 8 must be loaded to less than 70 percent capacity due to the restricted depth of the upper reaches of pool 8. The bulk of tonnage passing through lock 8 is downbound metallurgical coal, limited quantities of sand and gravel, and upbound gasoline and oil. Lock 8 has shown a steady increase in tonnage due primarily to increased coal shipments. Raising the crest of dam 8 is an element in the authorized upper Monongahela River improvement for navigation which also includes Morgantown, Hildebrand, and Opekiska locks and dams designed to replace old and obsolete locks and dams 10 to 15, inclusive. Morgantown lock and dam is completed and in operation. Hildebrand lock and dam is currently under construction and scheduled for completion in fiscal year 1959. Completion of this plan of improvement for the upper river will provide improved slack-water navigation from existing dam 8 to the head of the river.

Fiscal year 1958.—The requested amount of $1 million will be applied to—

Initiate and complete acquisition of land	$52, 800
Initiate and complete relocations	40, 000
Initiate alterations to dam	560, 000
Initiate and complete alterations to lock	270, 500
Engineering and design	15, 000
Supervision and administration	61, 700
Total	1, 000, 000

Early completion of the project is essential in order to eliminate the restricted depth in the upper reach of the pool. Completion of the project will also advance the comprehensive plan for the upper Monongahela River toward the ultimate goal of 9-foot navigable depth throughout the entire reach of river.

Non-Federal cost.—Direct cooperation on the part of local interests is not required in relation to the project. However, facilities within the limits of the river under Federal jurisdiction must be altered by the owners, if necessary, to meet navigation requirements. In connection with the project, utility adjustments by the owners will be necessary at an estimated cost of $31,000.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $3,650,000 reflects an increase of $120,000 over the latest estimate presented to Congress of $3,530,000. The change is effected by price-level rise of $129,500 and reanalysis of requirements resulting in an increase of $29,000 for engineering and design and a reduction of $38,500 for supervision and administration.

Mr. RABAUT. The justifications say—

The immediate need for raising the crest of dam 8 is to provide 9-foot channel depth for the full length of the pool.

What is the controlling depth now?

Colonel SMYSER. There is a controlling depth of 7 feet on a rock ledge just above the Morgantown Bridge.

Mr. RABAUT. You are going to raise that?

Colonel SMYSER. What we are going to do is to raise the crest of No. 8 sufficiently to give us the project depth of water.

As I indicated previously, sir, on the upper Monongahela the project for the modernization there, which was approved as a unit by Congress in 1950, involves the raising of No. 8, the building of Morgantown. Morgantown is completed. Hildebrand is under construction and going along satisfactorily. The final project would be Opekiska lock and dam.

Mr. RABAUT. What percentage of the traffic requires the additional depth?

Colonel SMYSER. It would all require it now, sir, because they cannot load more than the depth.

Mr. RABAUT. They could use 9 feet but they have been only loading 7?

Colonel SMYSER. They are only loading for a 7-foot depth, sir. That is controlling.

Mr. RABAUT. Are the benefits of this project calculated primarily on more efficient handling of current traffic or on new traffic to be attracted to this waterway?

Colonel SMYSER. A combination, sir, of all these factors: Ease of operation and less maintenance money; better movement through the locks; better propulsion in the deeper water; and increased traffic, which we feel will take place when the improved facilities are available.

OHIO RIVER TRAFFIC

Mr. KIRWAN. Referring to the traffic on the Ohio River, how much are you gaining each year in tonnage?

Colonel SMYSER. The Ohio River as a whole, sir, is gaining at a rate which roughly doubles itself every 10 years. I have a chart which indicates it by 5-year increments.

Mr. KIRWAN. Can you leave one for each member of the committee?

Colonel SMYSER. No, sir. I brought this alone.

Mr. KIRWAN. If you can, I wish you would send one to me, if you have an extra one. That is very good information.

You say every 10 years it is doubling?

Colonel SMYSER. Yes, sir. Those are 5-year increments. The increase in the red is almost as much as you had previously in the 30 years before. It is 5-year increments.

Mr. KIRWAN. That is startling. You cannot think of a river in any part of the world that is doing what you see there. Every one of those locks you have planned for this river system is needed.

Colonel SMYSER. If you wish, sir; I have a second copy of that chart with me and I could leave it for inclusion in the record.

(The chart referred to follows:)

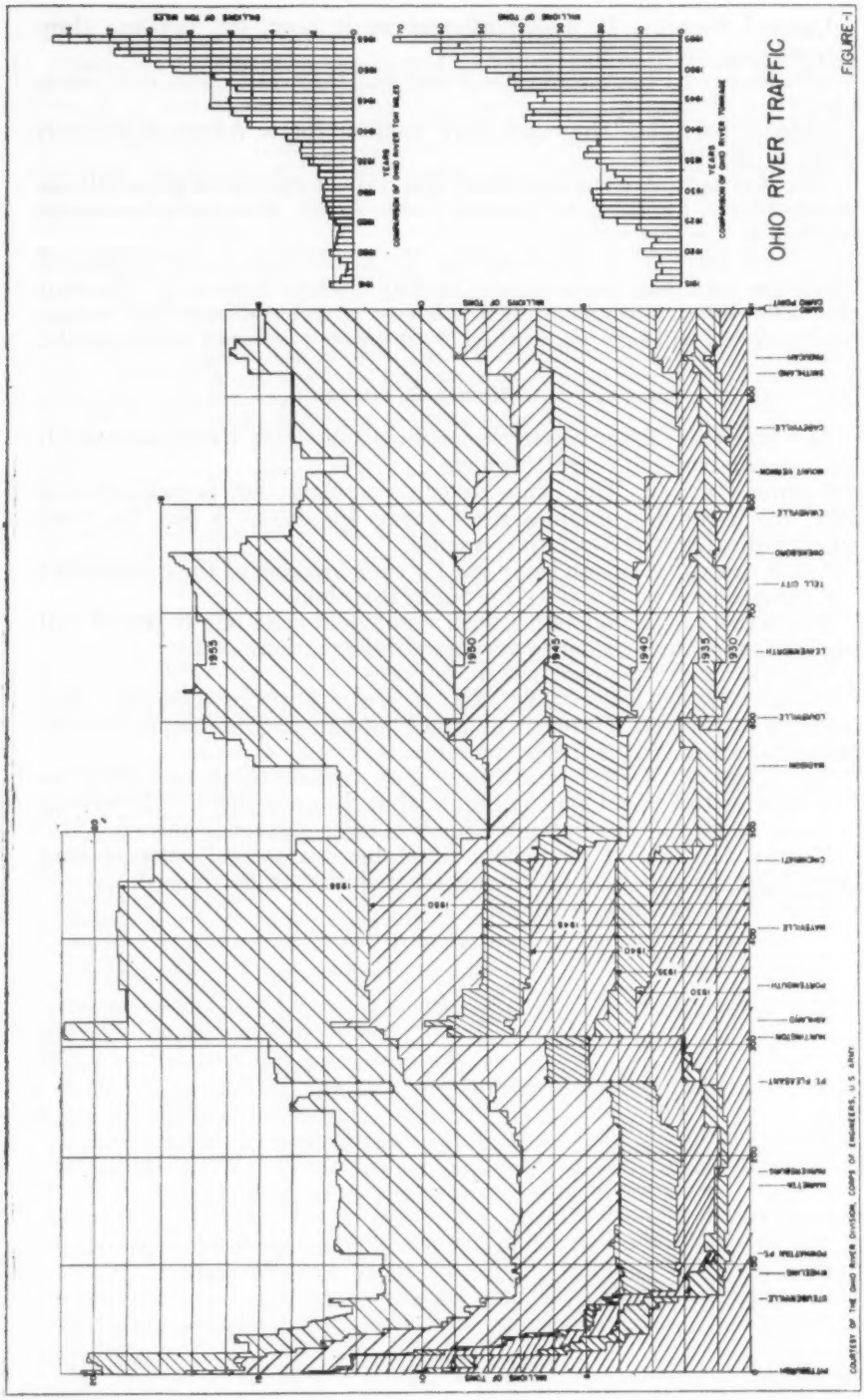

OHIO RIVER TRAFFIC
COMPARISON OF OHIO RIVER TONNAGE
COMPARISON OF OHIO RIVER TON MILES
YEARS
MILLIONS OF TONS
MILLIONS OF TON MILES
1955
1950
1945
1940
1935
1930
1926
1880
1846
1840
1836
1830
COURTESY OF THE OHIO RIVER DIVISION, CORPS OF ENGINEERS, U.S. ARMY

FIGURE-1

Mr. KIRWAN. It is startling information that the traffic is doubling itself every 10 years.

Colonel SMYSER. Approximately.

Mr. KIRWAN. How is the Mississippi traffic doing?

Colonel SMYSER. I am not sure, sir. It is certainly not compatible with this at all.

Mr. KIRWAN. Every one of those projects that you are asking construction money for are well needed in your belief?

Colonel SMYSER. I question, sir, that our modernization program will be completed before the existing locks will be saturated and be unable to take more.

Mr. KIRWAN. Thank you, Mr. Chairman.

MARKLAND LOCKS AND DAM

Mr. RILEY. Colonel, I notice here in regard to the Markland locks and dam that you have $550,000 for the continued acquisition of land. What percentage of the land required have you secured?

Colonel SMYSER. We have secured, sir, that land which we needed for the construction of the locks. This will be done in a series of increments. In other words, the first contract involved a large cofferdam for the main locks, and the auxiliary lock. Next we have acquired all the lands required for that, and access thereto.

Mr. RILEY. Do you still have to acquire some land that will be flooded?

Colonel SMYSER. We will have to acquire land on the other side for the abutment section, on the other side of the river.

Mr. RILEY. What will be the total estimated cost of the land?

Colonel SMYSER. $2.5 million is the overall cost of all the land, Mr. Riley.

Mr. RILEY. Is that highly developed land?

Colonel SMYSER. No, sir; it is not.

Mr. RILEY. How many acres are involved?

Colonel SMYSER. I would have to supply that for the record.

(The information to be furnished follows:)

The flowage area involved in the 95-mile pool of the Markland project amounts to about 6,300 acres.

Mr. RILEY. Do any of these other dams require any great amount of land?

Colonel SMYSER. The navigation dams, no sir. Generally speaking, for our navigation dams, the bulk of the land that is acquired is right at the construction site, with some additional flowage in some areas where we may raise the pool, and have to acquire flowage area.

Mr. RILEY. Thank you, Mr. Chairman.

NAVIGABLE AND NONNAVIGABLE DAMS

Mr. FENTON. You mentioned navigable dams and nonnavigable dams several times. What are they?

Colonel SMYSER. The existing dams on the Ohio are what they call navigable dams. That is to say part of the dam that holds the water back is a structure that can be raised and lowered. When it is lowered flat onto its sill, then the boats can go over it.

It is a navigable dam in the sense that the boats can go over the top of the dam when the stage is slightly higher than normal. The non-

navigable dams will involve a series of solid piers across the river, with steel gates in between.

When the river rises, those gates will be raised clear of the water but the boats will not be able to go through the dam itself. You must always go through the locks. Those are nonnavigable dams, in counterdistinction.

Mr. FENTON. Thank you.

HILDEBRAND LOCK AND DAM

Mr. RABAUT. You have next the Hildebrand lock and dam on the Monongahela River, Pa. and W. Va.

We will put pages 53, 54, and 55 in the record.

(The justifications referred to follow:)

HILDEBRAND LOCK AND DAM, MONONGAHELA RIVER, PA. AND W. VA.

Location.—The site of the lock and dam is in Monongalia County, W. Va., on the Monongahela River, about 108 miles above the mouth of the river at Pittsburgh, Pa.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—1.86 to 1 (for improvement of upper Monongahela River).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost (Corps of Engineers)	$13,200,000	
Estimated Federal cost (U. S. Coast Guard)	10,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	13,210,000	
Appropriations to June 30, 1956	1,147,000	
Appropriations for fiscal year 1957	2,750,000	
Appropriations to date	3,897,000	30
Appropriations requested for fiscal year 1958	5,300,000	70
Balance to complete after fiscal year 1958	4,003,000	

PHYSICAL DATA

Dam:

Type: Gated-crest, nonnavigable.
Length: 530 feet.
Gates: Six 60-foot Tainter gates.
Fixed weirs: One at each end of dam.
Lock: 84- by 600-foot chamber.
Lift: 21 feet.
Navigation channel: 9 feet deep and 300 feet wide.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	24	November 1958.
Relocations	1	November 1957.
Pool preparation (reservoirs)	0	June 1959.
Dam	4	April 1959.
Lock	15	August 1958.
Road	0	September 1958.
Channel	6	April 1959.
Permanent operating equipment	0	June 1959.
Entire project	13	Do.

JUSTIFICATION

Hildebrand lock and dam, a replacement for existing locks and dams Nos. 12 and 13, is an integral unit in the comprehensive plan of improvement of the upper Monongahela River. Traffic from this area consists principally of coal, sand and gravel while traffic from downriver points into the area consists of petroleum and steel products. Although increase in traffic through this reach of the river has been substantial through the years, the lack of adequate navigation facilities on the upper river has hindered movement of much greater prospective tonnage of coal reserves from the contiguous area. These reserves are ample to sustain for an indefinite period of time a much greater production rate than that currently being utilized. An improved waterway will provide a water outlet for a large part of the production of the Fairmont coal district similar to that now existing on the lower river. The increased channel width and depth along with the increased lock sizes proposed for the upper river will permit full loading of standard coal barges and the efficient movement of Monongahela River standard six-barge tows without breaking and reassembling the tows during lockage, resulting in appreciable transportation savings through reduced line haul costs, more efficient use of towing equipment, fewer lockages, and savings in operating time. It is anticipated that extension of a deeper channel will result in additional movement of petroleum products in the upper river. Bulk storage centers at the head of the existing deep draft navigation below Morgantown are actually on the fringe of the area to which distribution is now made by truck. Upon provision of adequate navigation facilities, Fairmont, which is the geographical hub of the service area, will probably develop as a storage and distribution center for gasoline. The life of existing locks and dams Nos. 12 and 13, which were constructed during the period 1901–03, cannot be extended to meet the burden of a greatly increased traffic. In addition, more economical operation and maintenance for the Government will result from replacement of these old and obsolete structures with one modern lock and dam at the Hildebrand site.

Fiscal year 1958.—The requested amount of $5,300,000 will be applied to—

Continue acquisition of land	$15,000
Complete relocations	42,700
Continue construction of dam	1,160,000
Continue construction of lock	3,300,000
Complete lock approach excavation and initiate channel dredging	443,700
Engineering and design	4,000
Supervision and administration	334,600
Total	5,300,000

Early completion of the project is essential due to the fact that existing locks 12 and 13 have about reached the end of their economic life and are inadequate for present river traffic. Completion of this project will advance the comprehensive plan for the upper Monongahela River toward the ultimate goal of improved slack-water navigation to the head of the river.

Non-Federal cost.—Direct cooperation on the part of local interests is not required in relation to the project. However, facilities within the limits of the river under Federal jurisdiction must be altered by the owners, if necessary, to meet navigation requirements. In connection with the project, alterations of a power line by the owner will be necessary at an estimated cost of $6,000.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate (Corps of Engineers) of $13,200,000 reflects a decrease of $1,700,000 from the latest estimate submitted to Congress ($14,900,000). The reduction is due primarily ($1,400,000) to receipt of a low bid for construction of the lock and dam and for the lock approach excavation. The balance is due to revised analyses of the estimates for lands and damages, engineering and design, and supervision and administration.

NEW HARMONY BRIDGE (BANK PROTECTION)

Mr. RABAUT. The New Harmony Bridge and bank protection, Illinois and Indiana.

Put pages 59 and 60 in the record.

(The justifications referred to follow:)

New Harmony Bridge (Bank Protection), Illinois, Indiana

(Continuing)

Location.—The New Harmony Bridge is located across the Wabash River at mile 51.5 above its mouth.

Authorization.—Flood Control Act of May 17, 1950.

Benefit-cost ratio.—Benefits are widespread, but not readily susceptible to evaluation.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$737,000	
Estimated non-Federal cost	65,000	
Cash contributions	0	
Other costs	65,000	
Total estimated project cost	802,000	
Appropriations to June 30, 1956	0	
Appropriations for fiscal year 1957	332,000	
Appropriations to date	332,000	45
Appropriation requested for fiscal year 1958	405,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Enlargement of the cutoff channel above the bridge.

Status (Jan. 1, 1957)

	Percent completed	Completion schedule
Bank stabilization	Not started	Nov. 30, 1957
Entire project	do	Do.

JUSTIFICATION

The New Harmony Bridge is located over the Wabash River on the principal highway between Evansville, Ind. and St. Louis, Mo., which is part of Federal Route 460 from Norfolk, Va. to St. Louis. In addition to the through traffic, considerable local traffic also uses the bridge. Several hundred people residing in Illinois have employment in Evansville, Ind., and vicinity and use the bridge in transit to and from work. Considerable heavy oil-drilling equipment is transported over the bridge between adjacent oilfields of Illinois and Indiana. Traffic over the bridge averages about 2,000 vehicles per day of which about 30 percent are trucks. This highway is the only crossing over the Wabash River from Terre Haute, Ind., (mile 214) to the mouth of this river which is built to an elevation above the stage of the greatest flood of record. Other bridges upstream, at Vincennes, Ind. and Hutsonville, Ill. depend on levee protection of the approaches while the left approach to the bridge at Mount Carmel, Ill. is flooded an average of once each year. During the great flood of 1943, all bridges across the Wabash River below Terre Haute, Ind., were closed except the New Harmony Bridge. All ferries crossing the river in this vicinity have obsolete light equipment which is inadequate to accommodate modern highway traffic.

At the time the bridge was constructed the channel at the site appeared relatively stable. However, in recent years, a series of bends have been developing, one of which is endangering the bridge structure by caving of the right bank. Due to this situation, the bank protection is essential to prevent this bridge and the west approach from being destroyed.

Fiscal year 1958.—The requested amount of $405,000 will be used to complete the project.

Non-Federal costs.—Lands and damages, to be furnished by the bridge owners in connection with this improvement, are estimated at $65,000. It is informally understood that the Bridge Commission has spent an average of $50,000 a year

in construction and repair of revetment work on the Illinois bank and additional funds in 1943 to dredge a cutoff channel on the Indiana side. In all, it is understood that the Bridge Commission has spent upwards to $1 million to protect the bridge.

Status of local cooperation.—The White County Bridge Commission, who are authorized by act of Congress, dated April 12, 1941, to operate and maintain all works in connection with the New Harmony Bridge, passed a resolution onNovember 9, 1956, to fulfill the requirements of local cooperation. The Bridge Commission has been furnished a copy of the preliminary plans and are proceeding to fulfill their requirements of local cooperation up to the point of actual purchase of lands. These purchases will be consummated upon final completion of plans for the proposed work.

Comparison of Federal cost estimate.—The current Federal cost estimate of $737,000 is an increase of $37,000 above the latest estimate ($700,000) submitted to Congress. This increase is due to higher price levels.

Mr. RABAUT. There was not a budget estimate for this last year but it was put in by the committee as a result of information supplied to us.

Is this considered by the corps to be a worth-while project?

Colonel SMYSER. This project, sir, was authorized by Congress and as such, as you note, no B–C ratio was required I assume.

It has been on the books for some time, and we have not questioned it. The committee placed it in and we have made the preparations to do the work.

The real estate is available. It is advertised and bids will be opened on the 8th of May.

Mr. TABER. You do not know whether the B–C ratio exists or not?

Colonel SMYSER. No, sir. It would be very difficult to evaluate a B–C ratio.

Mr. RABAUT. There is danger of the supports being washed out.

Colonel SMYSER. The project map would show it. The Wabash River is taking a severe cut, and one day will, if not controlled, probably go behind the bridge and cut the bridge off.

Mr. RABAUT. According to the justifications, during the great flood of 1943, all the bridges on the Wabash River below Terre Haute, Ind., were closed except the New Harmony Bridge. All ferries crossing the river in this vicinity have obsolete light equipment, which is inadequate to accommodate modern highway traffic, so if this New Harmony Bridge went out, they would be in a serious position.

Will all of the $332,000 appropriated in 1957 be obligated by the end of this year?

Colonel SMYSER. It will, assuming I get an acceptable bid when I open it on the 8th of May.

MANSFIELD RESERVOIR

Mr. RABAUT. Next is the Mansfield Reservoir, Ind.

Put pages 63, 64, and 65 in the record.

(The justifications referred to follow:)

MANSFIELD RESERVOIR, ORB, IND.

(Continuing)

Location.—The dam will be located in Raccoon Creek, 32.4 miles above its confluence with the Wabash River and 270.4 miles above the Ohio River. The reservoir extends upstream 14 miles from the dam and is in Parke and Putnam Counties, Ind.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.4 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$7,540,000	
Estimated non-Federal cost:		
Cash contributions	0	
Other costs	0	
Total estimated project cost	7,540,000	
Appropriations to June 30, 1956	196,000	
Appropriations for fiscal year 1957	[1] 624,000	
Appropriations to date	820,000	11
Appropriations requested for fiscal year 1958	1,600,000	32
Balance to complete after fiscal year 1958	5,120,000	

[1] Includes permanent transfer to project of $124,000.

PHYSICAL DATA

Dam:
Type: Earth.
Height: 113 feet.
Length: 1,790 feet.
Spillway:
Type: Uncontrolled through left abutment.
Length: 200 feet at elevation 690; 540 feet at elevation 695 and 1,000 feet at elevation 700.
Capacity (maximum pool): 117,500 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Conservation	16,185
Flood control	116,655
Total	132,840

Outlet works:
Conduit, semielliptical: 10 feet diameter.
Slide gates: 3 at 8 feet by 4 feet.
Stilling basin.
Outlet channel.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	10	Sept. 30, 1959
Relocations	0	Sept. 30, 1959
Reservoir	0	Sept. 30, 1959
Dam	2	Mar. 31, 1960
Buildings, grounds, and utilities	0	Dec. 31, 1959
Entire project	6	Mar. 31, 1960

JUSTIFICATION

The Mansfield Reservoir project is 1 of 81 authorized reservoir units for control of floods on the Ohio River and tributary streams. Only 2 reservoirs are authorized for construction in the Wabash River Basin, 1 of the large contributors to floods in the Ohio River. The operation of the reservoir will reduce flood stages along Raccoon Creek below the dam and contribute toward reduction of flood flows along the Wabash and Ohio Rivers. Raccoon Creek, on which the reservoir will be situated, enters the Wabash River at mile 238, above a section of the stream in which many levee units are located. The operation of the reservoir will increase the degree of protection afforded by the levees, most of which were originally constructed by the landowners protected thereby, and which provides a low degree of protection. In addition, flood stages will be reduced along unprotected areas which will further lessen the average annual damages sustained under present conditions.

Fiscal year 1958.—The requested amount of $1,600,000 will be applied to—

Continue acquisition of lands	$351, 300
Complete construction of outlet works	541, 500
Initiate construction of nonoverflow section of dam	150, 000
Initiate relocation of roads	200, 000
Initiate relocation of utilities	219, 200
Engineering and design	40, 000
Supervision and administration	98, 000
Total	1, 600, 000

The funds requested will provide for completion of the outlet works, initiation of the embankment section of the dam and an orderly and economical rate of progress on lands and relocations which must be completed prior to placing the project in operation.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—No change from latest estimate submitted to Congress.

BUCKHORN RESERVOIR

Mr. RABAUT. We have now the Buckhorn Reservoir, Ky. Put pages 69, 70, and 71 in the record.

(The justifications referred to follow:)

BUCKHORN RESERVOIR, KY.

(Continuing)

Location.—The dam site for the Buckhorn Reservoir is located on the Middle Fork of the Kentucky River, 0.5 mile above the town of Buckhorn, Ky., and about 296.6 miles above the Ohio River. The reservoir will extend upstream in the valley a distance of about 31 miles at maximum flood-control pool and will lie in Leslie and Perry Counties, Ky.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.2 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$10, 200, 000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	10, 200, 000	
Appropriations to June 30, 1956	138, 000	
Appropriations for fiscal year 1957	[1] 850, 000	
Appropriations to date	988, 000	10
Appropriations requested for fiscal year 1958	1, 900, 000	28
Balance to complete after fiscal year 1958	7, 312, 000	

[1] Excludes permanent transfer from project of $150,000.

PHYSICAL DATA

Dam:
Type: Rock fill with impervious core.
Height: 162 feet.
Length: 1,020 feet.

Spillway:
Type: Gate controlled, through right abutment.
Length: 150 feet.
Capacity: (maximum pool) 33,000 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Conservation pool	10,300
Flood control pool	157,700
Total	168,000

Outlet works:
Conduit: Semielliptical, 14-foot diameter.
Slide gates: 3 at 5.5 by 11 feet.
Stilling basin.
Outlet channel.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	3	Dec. 31, 1959
Relocations	0	June 30, 1959
Reservoir	0	Sept. 30, 1959
Dam	1	Dec. 31, 1959
Buildings, grounds, and utilities	0	Do.
Entire project	3	Do.

JUSTIFICATION

The Buckhorn Reservoir project is 1 of 81 authorized units in the general comprehensive plan for flood control and allied purposes in the Ohio River Basin. This reservoir will virtually eliminate flood damages along Middle Fork of the Kentucky River below the dam site, will contribute materiallly to the reduction of flood heights in the Kentucky River Valley and will substantially reduce flood damage at and in the vicinity of Beattyville, Ky. Beattyville is the county seat of Lee County and is a rural shopping center. This town probably has been affected more frequently by Kentucky River floods than any other town along the main stream. In the 1939 flood, the business section was flooded to a maximum depth of 8 feet, access by the main highway to the north was cut off, and private property and inventory damage was severe.

Buckhorn Reservoir, the first reservoir project constructed in the Kentucky River Basin, will be an essential part of any future plans for flood control in the Kentucky River Valley where the civilian economy is adversely affected by floods and, in conjunction with other reservoirs in the Ohio River Basin plan, will contribute to reduction of flood heights along the 435 miles of the Ohio River below the Kentucky River and along the Mississippi River.

Fiscal year 1958.—The requested amount of $1,900,000 will be applied to—

Continue acquisition of lands	$435,000
Continue relocation of highways	400,000
Complete construction of outlet works	760,000
Initiate construction of dam	125,000
Permanent operating equipment	2,000
Engineering and design	69,000
Supervision and administration	109,000
Total	1,900,000

The funds requested are required to continue the orderly acquisition of lands; continue relocation work which must be completed prior to the completion of the dam; complete the construction of the outlet works and initiate construction of the dam. The Buckhorn Reservoir, when completed, will control 73 percent of drainage area of the Middle Fork of the Kentucky River, thereby contributing materially to the reduction of floods below the dam, particularly at Beattyville, Ky.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $10,200,000 is an increase of $210,000 over the latest estimate ($9,990,000) submitted to Congress. The estimated cost for lands and damages was increased $545,000 based on a more detailed analysis of requirements. Price level increase on construction and relocation items resulted in an increase of $203,000.

A reevaluation of Government cost for supervision and administration resulted in a further increase of $30,000. These increases were partially offset by a reduction of $568,000 for construction and relocation work based on further design and reappraisal of contingency allowances.

Mr. RABAUT. The budget request last year was for $1 million, and the House allowed nothing. The Senate put the $1 million in the bill, and the Senate allowance prevailed in conference.

The benefit-cost ratio is only 1.2 to 1, which casts some doubt on it in the first place, then I notice you have made a permanent transfer from the project of $150,000. Are you having trouble getting started on this project?

Colonel SMYSER. The reason for the transfer, sir, was that we had some difficulty in coming into agreement with the State on the details of the relocation of Highway 28 which goes through the dam site.

We did not wish to keep that money and not be able to use it, so we recommended a transfer. We have now come into agreement with the State on that highway. We let a contract for the outlet works. The contractor has completed his base, and is well along, approximately on schedule, in spite of the flood that occurred this winter.

Mr. RABAUT. You have not obligated it yet, have you?

Colonel SMYSER. Practically everything is obligated.

CATLETTSBURG

Mr. RABAUT. We will go on to consideration of the project for Catlettsburg, Ky.

Put pages 74, 75, and 76 in the record.

(The justifications referred to follow:)

CATLETTSBURG, KY.

(Continuing)

Location.—Local protection for Catlettsburg, Ky., located in Boyd County along the left banks of the Big Sandy and Ohio Rivers at their junction 317 miles below Pittsburgh, Pa.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.35 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$4,560,000	
Estimated non-Federal cost	300,000	
Cash contributions	0	
Other costs	300,000	
Total estimated project cost	4,860,000	
Appropriations to June 30, 1956	369,000	
Appropriations for fiscal year 1957	[1] 1,139,000	
Appropriations to date	1,508,000	33
Appropriations requested for fiscal year 1958	2,000,000	77
Balance to complete after fiscal year 1958	1,052,000	

[1] Includes permanent transfer to project of $139,000.

PHYSICAL DATA

Levees:
Average height: 21 feet.
Length: 6,480 feet.
Floodwalls:
Average height: 16 feet.
Length: 3,870 feet.
Gate openings: 7 stop log closure structures varying in width from 12 to 50 feet.
Pumping plants: 4 pumping plants with attendant interceptor sewer.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Levees and flood walls	30	October 1958.
Pumping plants (not started)		Do.
Entire project	26	Do.

JUSTIFICATION

The project will provide complete protection to practically all of the developed area of the city including the business and residential areas (population of about 5,000) against plood of magnitude equal to that of January 1937, the maximum of record. The flood of January 1937 inundated approximately 80 percent of the developed area of the city to an average depth of 17 feet and made refugees of about 4,000 persons. Damages resulting from a flood equal to that of 1937, under the present state of development of the city would amount to approximately $2,400,000. The most recent flood, which occurred in March 1955, caused damages estimated at $470,000. Catlettsburg is primarily a residential community; however, the major portion of the working population is employed outside the city by large industrial and commercial establishments in surrounding communities, all of which have federally constructed local protection projects. During floods at Catlettsburg a high degree of absenteeism occurs at the industrial plants as the personnel remain at home to care for their families and property. These plants are engaged primarily in the manufacture of steel products and chemicals which are highly important to the national defense and economic welfare. Average annual benefits are estimated at $259,500.

Fiscal year 1958.—The requested amount of $2 mililon will be applied to:

Continued construction of remaining flood walls and levees under continuing contract	$1,300,000
Initiate construction of pumping plants under a continuing contract	535,000
Engineering and design	35,000
Supervision and administration	130,000
Total	2,000,000

Funds in the amount of $2 mililon are required to maintain an orderly rate of construction.

Non-Federal cost.—The initial investment required of local interests in construction of the authorized project is estimated at $300,000 broken down as follows:

Rights-of-way and damages	$264,000
Sewer and pavement changes	10,000
Relocation of utilities	26,000
Total	300,000

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $14,000.

Status of local cooperation.—The city of Catlettsburg, Ky., on July 11, 1955, adopted a resolution assuring the United States that the requirements of local cooperation would be supplied. All rights-of-way and interest required have been acquired.

Comparison of Federal cost estimates.—No change from latest estimate submitted to Congress. However, some minor refinements has been made in some of the feature estimates.

ROUGH RIVER RESERVOIR AND CHANNELS

Mr. RABAUT. Next is Rough River Reservoir and channels, Kentucky.

Put pages 79, 80, and 81 in the record.

(The justifications referred to follow:)

ROUGH RIVER RESERVOIR AND CHANNELS, KENTUCKY

(Continuing)

Location.—The dam site for the Rough River Reservoir is located on Rough River, 89.3 miles above its confluence with Green River and about 160.3 miles above the Ohio River. The reservoir will extend upstream in the valley a distance of about 27 miles for the conservation pool and about 45 miles at the full flood-control pool and will lie in Breckinridge, Grayson and Hardin Counties, Ky. The channel improvement work is located on the following streams and reaches: Rough River between its mouth and the mouth of Caney Creek; Barnett Creek between its mouth and mile 6.7; North Fork (Barnett Creek) between its mouth and mile 2.3.

Authorization.—1938 and 1944 Flood Control Acts.

Benefit-cost ratio.—2.8 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$10,300,000	
Estimated non-Federal costs	22,000	
Cash contributions	0	
Other costs	22,000	
Total estimated project cost	10,322,000	
Appropriations to June 30, 1956	634,000	
Appropriations for fiscal year 1957	[1] 1,275,000	
Appropriations to date	1,909,000	19
Appropriations requested for fiscal year 1958	3,000,000	48
Balance to complete after fiscal year 1958	5,391,000	

[1] Excludes permanent transfer from project of $225,000.

PHYSICAL DATA

Dam:
- Type: Rolled earth-filled embankment.
- Height: 124 feet.
- Length: 1,530 feet.

Spillway:
- Type: Uncontrolled through left abutment.
- Length: 65 feet.
- Capacity: (Maximum pool) 18,100 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Conservation	19,050
Flood control	303,650
Total	322,700

Outlet works:
- Conduit, semielliptical: 12 feet diameter.
- Slide gates 3 at 4.75 feet by 9.5 feet.
- Stilling basin.
- Outlet channel.

Channel work:	*Miles*
Rough River	64.0
Barnett Creek	3.9
North Fork (tributary to Barnett Creek)	2.2

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	4	Dec. 31, 1958
Relocations	3	June 30, 1959
Reservoirs	0	Mar. 31, 1959
Dam	20	June 30, 1959
Channels and canals	0	Dec. 31, 1959
Buildings, grounds, and utilities	0	May 31, 1959
Entire project	11	Dec. 31, 1959

JUSTIFICATION

The Rough River Reservoir is 1 of 81 authorized reservoir units proposed as a means of controlling floods on the Ohio River and its tributary streams. Operation of the reservoir for flood control will reduce flood stages along Rough River below the dam and in combination with the other four authorized reservoir units of Green River Basin will reduce flood stages on the Green and Ohio Rivers and contribute to reduction of major flood flows in the Mississippi River. The bank clearing and minor cleaning of Rough River Channel would further reduce flood damages on the agricultural lands along the main stream. Effectiveness of this work is contingent upon the operation of the reservoir. Operation of both units would provide protection to 21,700 acres of bottom land above mile 18 and 2,000 of 10,000 acres below this point, which is in the Green River backwater area, against most cropping season floods. The improvements on Barnett Creek and North Fork will increase the channel capacity to carry all cropping season floods up to a 5-year frequency. Further, a substantial area along Green River would be given partial protection. Construction of this project is the initial step in the progressive development of flood control and related water uses for the Green River Basin and will also be consistent with the plan of the Department of Agriculture for watershed improvement.

Fiscal year 1958.—The requested amount of $3 million will be applied to—

Continue acquisition of lands	$1,000,000
Continue relocation of roads	800,000
Initiate clearing of reservoir area	50,000
Continue construction of dam	900,000
Permanent operating equipment	15,000
Engineering and design	89,000
Supervision and administration	146,000
Total	3,000,000

The funds requested will provide for an economical rate of progress on the dam and related features such as relocations and clearing, which must be completed prior to placing the project in operation.

Non-Federal costs.—The initial investment required of local interests in connection with the channel improvement work of the authorized project is estimated at $22,000 for lands and damages.

Maintenance of the improved channel will be the responsibility of local interests. The annual cost for maintenance and operation is estimated at $23,000. Maintenance and operation of the reservoir is a Federal responsibility.

Status of local cooperation.—No local cooperation is required for the construction of the reservoir project. The provisions of section 3 of the Flood Control Act of 1936 are applicable to the channel improvement work.

Local interests have expressed a willingness to meet the requirements of cooperation for the construction of the channel improvements. A request for the official assurances has not been made as the plans have not been developed to the extent that actual requirements of land can be furnished.

Comparison of Federal cost estimate.—The current Federal cost estimate of $10,300,000 is an increase of $400,000 above the latest estimate ($9,900,000) submitted to Congress due primarily to higher price levels.

DILLON RESERVOIR

Mr. RABAUT. If there are no questions we will take up Dillon Reservoir, Ohio.

Put pages 85, 86, and 87 in the record.

(The justifications referred to follow:)

DILLON RESERVOIR, OHIO

(Continuing)

Location.—On Licking River, a tributary of the Muskingum River, 83.4 miles above the mouth of the Muskingum and 5.8 miles above the mouth of Licking, at Zanesville, Ohio.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.37 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$28,800,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	28,800,000	
Appropriations to June 30, 1956	8,827,000	
Appropriations for fiscal year 1957	1,500,000	
Appropriations to date	10,327,000	36
Appropriations requested for fiscal year 1958	4,000,000	50
Balance to complete after fiscal year 1958	14,473,000	

PHYSICAL DATA

Dam:

Type: Earth fill.

Height: 118 feet (maximum).

Length: 1,350 feet.

Spillway:

Type: Uncontrolled, concrete lined, in left abutment.

Design discharge: 94,000 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Conservation pool	12,700
Flood control pool	261,100
Total capacity	273,800

Outlet works:

Twin conduits: 14 feet 7 inches diameter.

Gates: 3—9 by 17 feet.

Stilling basin.

Outlet channel.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	16	June 1960.
Relocations	56	Do.
Reservoir, not started		December 1959.
Dam, 1 dike completed prior to suspension of work in 1950	3	June 1960.
Roads, rural levee, buildings, and permanent operating equipment	0	Do.
Dam closure		December 1959.
Entire project	3	June 1960.

JUSTIFICATION

This project will serve as an essential supplement to the 14 existing reservoirs in the Muskingum River Basin, and is a meritorious unit in the system of reservoirs for reduction of floods on the Ohio River. The reservoir will control approximately 29 percent of the presently uncontrolled area above the highly industrialized city of Zanesville, Ohio, and will greatly decrease the hazards of heavy damages from extreme floods that still exist in the Muskingum River Valley. The benefits to be obtained will accrue largely along the Muskingum River below the mouth of the Licking River, including the towns of Zanesville, McConnelsville, and Marietta, Ohio. Zanesville, with a 1950 population of 40,000 has many varied industries and manufacturing plants, including iron and steel and products thereof, chemicals, and electrical equipment. The area below Zanesville includes 2 large steam-electric plants (Philo, capacity 500,000 kilowatts and Muskingum River, 400,000 kilowatts) and expanding chemical and industrial developments. In addition, benefits will be provided by the project to cities and towns, valuable farmlands, and railroads and highways along the Ohio River from Marietta, Ohio, to Cairo, Ill. A new unit of the Carbide & Carbon Chemical Corp. was recently completed on the Ohio River bank immediately below Marietta. One of the largest steam-electric plants in the country was recently completed at Cheshire, Ohio, to provide power for the Atomic Energy Commission's Portsmouth, Ohio, project, and another large steam- electric plant is located on the Ohio River at Graham Station, W. Va., about 50 miles below Marietta. Benefits will also accrue to the project by operation of the conservation pool to provide increased low-water flow during dry periods.

Fiscal year 1958.—The requested amount of $4 million will be applied to—

Continue acquisition of lands for the reservoir	$1,000,000
Complete continuing contract for track work for the Baltimore & Ohio Railroad relocation	1,070,000
Initiate relocation of State and county highways	597,000
Continue relocation of utilities and relocate cemeteries in the reservoir	260,000
Initiate construction of the dam under a continuing contract	700,000
Engineering and design	160,000
Supervision and administration	213,000
Total	4,000,000

Completion of the project at the earliest practicable date is highly desirable to furnish additional flood protection to the highly industrialized area at Zanesville and to the rapidly developing areas on the Ohio River downstream from Marietta. The Ohio Valley has experienced the most rapid industrial expansion in the country in the past few years, and many new developments continue to locate in the flood plain. The funds requested are required for an orderly and economical construction schedule during the budget year.

Non-Federal cost.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—No change in latest estimate submitted to Congress.

Mr. RABAUT. Prior to 1957, there was $8,827,000 appropriated for this project. There was nothing in the 1957 budget for it, but, as a result of the Senate putting it in the bill last year, $1,500,000 was appropriated. I understand that work on the dam was suspended back in 1950. It would be well if you would give us a history of this project.

Colonel SMYSER. Yes, sir. This is one of the projects in the comprehensive plan of the Ohio Basin. It is also the last remaining project uncompleted in the Muskingum Basin. It was started some years ago, and the work was suspended because of the Korean conflict as it would not directly contribute to the war effort at that ime. The money that was appropriated previously was used on relocations. That work fits right in with the current planning, and we have merely taken up where we left off when the suspension took place.

Mr. RABAUT. What progress would you say has been made with the $1.5 million?

Colonel SMYSER. I will have the $1.5 million all obligated and expended this year.

RELOCATIONS

Mr. TABER. What has it been spent for? The expenditures down to date were not on any dam. They were on relocation of roads and railroads.

Colonel SMYSER. And so far, sir, our expenditures are for real estate, the railroad and highway relocations, and the Nashport dike, which was a small auxiliary dike. We have not spent any money on the major dam. We have to do these other relocations before we can start the dam, sir.

Mr. TABER. It does not look like there is much to it, except to hand out to these railroads and other people for relocation. It looks like that is the biggest part of the cost.

Colonel SMYSER. Relocations on this project were one of the major items, sir, but, for instance, the railroad had a track which ran through the valley on a perfectly satisfactory grade. I would assume they are not appreciably benefited by moving the track over. We had to buy a new right-of-way and relocate the track in order to utilize the site.

LOCAL OPPOSITION

Mr. RABAUT. There was opposition to this project at one time?

Colonel SMYSER. There was, sir.

Mr. RABAUT. But you feel now that that opposition is diminishing?

Colonel SMYSER. I do.

Mr. RABAUT. And the project, in your opinion, will get the green light from the local people?

Colonel SMYSER. I do, sir.

Mr. TABER. There is a water supply proposition involved in this, is there not?

Colonel SMYSER. Sir, there is incidental low flow regulation, but not water supply for domestic use, directly as such.

Mr. TABER. I understood there was.

On top of that, there is a very serious question about whether there is any benefit or not coming out of this. I have been hearing, ever since we started hearings on this bill, about the opposition to it. I wonder if there is any real reason for going ahead with the proposal.

Colonel SMYSER. Sir, we are not aware of this very strong opposition you present. There are problems of people who are going to be moved, which we have to solve. There is a question of small communities, like Nashport, which will have to be solved, and that is true in every reservoir, but as far as major opposition, we are unaware of anything that could be classed as that.

Mr. TABER. What is it supposed to do?

FLOOD CONTROL BENEFITS

Colonel SMYSER. It will provide flood control benefits directly in the Muskingum Valley, particularly, say to the town of Zanesville, which is just below the reservoir, and the other communities on the Muskingum, and these benefits, of course, will also accrue in the Ohio Basin below the entrance of the Muskingum.

Mr. TABER. Have they had serious floods in Zanesville?

Colonel SMYSER. They have had serious floods in Zanesville.

Mr. TABER. What were they?

Colonel SMYSER. During the past 5 years Zanesville had a flood in March 1955; and it had one in January of 1952. Those are the most recent. Before that they had floods in 1950, in December; they had them in January and February of 1950; they had them in April 1948, March 1945, January 1937, August 1935, March 1913. Those are the major ones prior to the last 5 years.

Mr. TABER. Would the damages of those floods have been any less if the dam had been in?

Colonel SMYSER. In all cases the damages would have been less, sir.

Mr. TABER. Is this to be a dry dam?

Colonel SMYSER. No, sir.

Mr. TABER. What kind?

Colonel SMYSER. This will have a small conservation pool in it, and there will be seasonal storage for incidental low-flow improvement.

Mr. TABER. Will it be kept pretty well full all the time?

Colonel SMYRSER. No, sir. There will be a large flood-control pool which will not be used, sir, except in time of dire emergency.

Mr. TABER. I do not know where you got your benefits, but I would be inclined to doubt them. If you have any benefits, I would be glad to hear about them.

Colonel SMYSER. The benefits are flood control, sir, directly for flood-damage prevention. That is the primary portion of the benefits.

We also, of course, have some benefits, very nominal, for low-flow regulation, improving navigation, and we gave some consideration to conservation and public use.

Mr. TABER. Mostly the benefits are conservation, park development, and that sort of thing, are they not?

Colonel SMYSER. Mr. Taber, the total benefits as we evaluated them in the planning report we furnished Congress were $1,644,000, of which $1,538,000 was for flood control, so that is practically the whole thing, except for these other smaller items.

Mr. TABER. You are spending $28 million to cover $1,400,000 flood control.

Colonel SMYSER. That benefit is annual, sir.

Mr. FENTON. Has there been any loss of life there?

Colonel SMYSER. I assume there have been some, but I am not prepared to document this.

Mr. BOLAND. What is the flow on the Licking River?

Colonel SMYSER. I have two figures that will probably interest you. The minimum monthly flow of the Licking River is 72 cubic feet per second. That is the minimum mean monthly low flow.

Mr. BOLAND. That is the average flow, 72 cubic feet per second?

Colonel SMYSER. That is the lowest flow. The average flow would be 801 cubic feet per second.

Mr. BOLAND. That is still low.

Colonel SMYSER. That is still low.

Mr. BOLAND. The last flood occurred in March 1955. What was the total damage in this area? I am interested only in the Licking River at Zanesville. This is the dam that is to protect Zanesville; is that right?

Colonel SMYSER. That is the community that is nearest the tributary.

Mr. BOLAND. What was the damage to Zanesville in 1955?

Colonel SMYSER. $120,000, sir.

Mr. BOLAND. $120,000 to Zanesville in 1955. What was the damage in January of 1952?

Colonel SMYSER. $1,120,000.

Mr. BOLAND. Are there any other flood control projects in the Licking River besides this one?

Colonel SMYSER. This is one to supplement the 14 reservoirs in the Muskingum Basin.

Mr. BOLAND. In the Muskingum Basin. Are there any other flood-control projects on the Licking River?

Colonel SMYSER. No, sir.

Mr. BOLAND. There are 14 existing reservoirs in the Muskingum River, as I understand it. There are now 14 in operation?

Colonel SMYSER. Yes, sir.

Mr. BOLAND. Has that pretty well settled the problem of flood damage in that area?

Colonel SMYSER. With the completion of this one, which is the last one, we feel that it will pretty well accomplish all that can reasonably be done.

Mr. BOLAND. You do not really need this one for flood control of the Muskingum River?

Colonel SMYSER. Standing alone, we would not.

Mr. BOLAND. This is not essential to flood control in the Muskingum River, this particular project, if the average flow is only 801 cubic feet per second.

Colonel SMYSER. This is one of the bigger rivers flowing into the Muskingum.

Mr. BOLAND. I ask you again, would an average flow of only 801 cubic feet per second——

Colonel SMYSER. Your flood flows would be considerably greater than that. Your flood flows here have been as high as 39,000 cubic feet per second.

Mr. BOLAND. In March 1955 what was the flood flow at that time?

Colonel SMYSER. I have the gage height. I do not have the figure translated.

Mr. BOLAND. What was the gage height in March of 1955?

Colonel SMYSER. The gage height at Zanesville was 21.7 feet.

Mr. BOLAND. What was it in January of 1952?

Colonel SMYSER. In January of 1952 it was 29.5.

Mr. BOLAND. What was it in December of 1950?

Colonel SMYSER. In December of 1950 it was 22.5.

Mr. BOLAND. The relocations here are awfully high, it would seem to me, in comparison to the total cost of the dam, which is less than $7.6 million. Yet the total cost of the project runs about $29 million. It seems to me relocations are very high. That is probably understandable, too.

Colonel SMYSER. We are late in starting.

Mr. BOLAND. I have some difficulty understanding your jusitfication of this project. I do not know whether this project by itself contributes much of anything to flood control in that area.

How about the low-flow regulation? For what purpose will that be?

Colonel SMYSER. There will be some domestic use on the lower Muskingum and there will be industrial use of it, sir. There are large plants, powerplants, below it in the Muskingum Basin. All of them will benefit by having the low-flow improved.

Mr. BOLAND. If they benefit by increased water use, should there not be some cost to these people?

Colonel SMYSER. This is incidental low-flow benefit.

Mr. BOLAND. Apparently some of the reservoir capacity is reserved for low-flow regulation.

Colonel SMYSER. We are going to use that primarily by our seasonal use of the flood-control pool, sir.

Mr. BOLAND. You do not know when a storm is coming along. If you have water in there and have a flash flood, what happens?

Colonel SMYSER. Sir, it is quite possible, where you have the records that we have today of when the storms occur, it is both possible and profitable to use a part of your conservation pool and probably some of your flood-control storage on a seasonal basis. You do not build any more than you would build for flood control only.

Your method of operation is such that you are able to get some benefit in those periods when you know that you do not get your tremendous storms.

Mr. BOLAND. That is all, Mr. Chairman.

Mr. RABAUT. What percentage of the flood protection estimated for the projects in this basin would be accounted for by this project? How deficient is your whole system now without this one project?

Colonel SMYSER. I would rather not give you a figure from memory.

Mr. RABAUT. Can you give us an idea?

Colonel SMYSER. This is not a major project, if you want the percentage, sir, but every bit that we can control means that much less.

Today the overall basin plan is still only a little over 40 percent on its way, and while this may only be a few percent, carrying it through to completion, nevertheless it is important to get those few percentages.

Mr. RABAUT. You say 40 percent?

Colonel SMYSER. The overall Ohio Basin plan, sir.

Mr. KIRWAN. Let me ask you this question: Do you know any other project in the country like the conservancy district on the Miami at Dayton?

Colonel SMYSER. The only two, sir, that have had that are the Miami and the Muskingum that I am familiar with.

Mr. KIRWAN. I do not mean that. Muskingum is paid by the Government?

Colonel SMYSER. Yes, sir.

Mr. KIRWAN. I am talking about the one at Dayton.

Colonel SMYSER. I know of none.

Mr. KIRWAN. Do you know of any others in the country like it?

Colonel SMYSER. I personally am not aware of it, sir.

Mr. KIRWAN. People in those 6 or 7 counties paid for that themselves. That is a flood-control project, but they did it themselves.

Colonel SMYSER. I believe, sir if they were doing it today, they would also make provision for the inclusion of seasonal operation.

Mr. KIRWAN. Do you know of any other area in the United States that paid for their own flood protection?

Colonel SMYSER. I know of no project of that scope, sir. I know of individual dams that have been built by local people.

Mr. KIRWAN. That is what I mean.

We in the district that I represent paid $30 million for a project that furnishes our drinking water. We paid $30 million in Youngstown, Ohio, for drinking water.

Then I think of what they did in the several counties around Dayton, Ohio, where they spent $30 million to $50 million on flood control. I do not know of any other place in the country that has done that.

Getting back to Dillon Dam, what protection does this give Marietta?

Colonel SMYSER. It gives a small benefit to Marietta.

Mr. KIRWAN. Marietta is the biggest city that is involved?

Colonel SMYSER. Yes.

Mr. KIRWAN. What does Marietta get out of it in flood protection?

Colonel SMYSER. It would make a smaller gage height reduction at Marietta than at Zanesville. For example, if it reduces Zanesville 4.9 feet it will reduce Marietta 1.2 feet.

Mr. KIRWAN. One foot of water taken from Marietta when they get a flood is a lot of water; is it not?

Colonel SMYSER. A foot of water in the 1937 flood would have been very useful.

Mr. KIRWAN. Marietta is right on the Ohio River and has certainly been hit with many floods, so anything you can do to protect Marietta, you are doing something that is needed.

Colonel SMYSER. That gets back to the percentage question. You may have a gage height on a river of 40 feet and you may be reducing it only by a foot and a half, but that is a very important foot and a half.

Mr. KIRWAN. That is right.

Mr. TABER. How many acre-feet of storage is there in that dam?

Colonel SMYSER. The total capacity is 273,000 acre-feet. The cost per acre-foot will be $105.

Mr. TABER. This is an awfully big dam. It is one of the largest dams you have in this section of the country.

Colonel SMYSER. In total capacity, yes.

Mr. TABER. It does not seem reasonable.

SOURCE OF FLOODWATER AT ZANESVILLE

Mr. BOLAND. Mr. Chairman, I would like to ask one more question.

I notice Zanesville is at the juncture of the Muskingum and Licking Rivers. From which particular river does Zanesville get the greatest amount of damage? Which was responsible for the damage at Zanesville in 1955?

Colonel SMYSER. I would rather supply that answer for the record.

Mr. BOLAND. I would like to know whether the Licking or the Muskingum was responsible for the damage at Zanesville in the flood of 1955, and also the one in 1952, which apparently was the flood of record.

Colonel SMYSER. The flood of record in that area was actually the 1913 flood. That is actually the flood of record.

Mr. BOLAND. I am primarily interested in the more recent ones, so I would like to know which river contributed the greatest amount of damage to Zanesville in the floods of 1952 and 1955.

Colonel SMYSER. We will supply that for the record.

(The information requested was supplied as follows:)

It should be noted that if the peak flows contributed by the Licking River at Zanesville were retained by Dillon Reservoir, the residual flows from the upper Muskingum for the 1952 and 1955 floods would have been carried largely within the banks of the Muskingum at Zanesville and the total damages would have been greatly reduced. Thus, Dillon would have eliminated damages amounting to $80,000 in the 1955 flood, leaving a residual of only $40,000; and it would have eliminated damages amounting to $960,000 in the 1952 flood, leaving a residual of only $160,000.

If the damages at Zanesville for these floods were to be apportioned in accordance with the flows contributed to the peak discharges by the Licking and by the uncontrolled area of the Muskingum, the apportionment would be as follows:

Flood	Peak discharge at Zanesville in cubic feet per second	Flow contributed to peak discharge			
		By Licking River		By Muskingum River	
		Cubic feet per second	Percent	Cubic feet per second	Per, cent
March 1955	45,000	8,800	20	36,200	80
January 1952	80,000	24,000	30	56,000	70

The percentage apportionments indicated above are logical in view of the fact that the drainage area in the Licking River Basin above Dillon Dam constitutes 29 percent of the total uncontrolled drainage area at Zanesville. On the basis of these percentages, the damages of $120,000 for the 1955 flood would be apportioned $24,000 to the Licking and $96,000 to the Muskingum; and the damages of $1,120,000 for the 1952 flood would be apportioned $336,000 to the Licking and $784,000 to the Muskingum.

Mr. BOLAND. That is all, Mr. Chairman.

ROSEVILLE, OHIO

Mr. RABAUT. The next project is Roseville, Ohio, page 91. We will place pages 91, 92, and 93 in the record.

(The material is as follows:)

ROSEVILLE, OHIO

(New)

Location.—Local protection for Roseville, Ohio, located in Muskingum and Perry Counties, along Moxahala Creek about 6 miles upstream from its confluence with Jonathan Creek, a tributary of the Muskingum River.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—1.22 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$1,070,000	
Estimated non-Federal cost	59,000	
Cash contributions	0	
Other costs	59,000	
Total estimated project cost	1,129,000	
Appropriations to June 30, 1956	74,000	
Appropriations for fiscal year 1957	0	
Appropriations to date	74,000	7
Appropriations requested for fiscal year 1958	500,000	53
Balance to complete after fiscal year 1958	496,000	

PHYSICAL DATA

Levees:
Average height: 12 feet.
Length: 5,370 feet.
Channels:
Length: 7,290 feet.
Bottom width: 60 feet.
Pumping plant: 1 pumping plant.
Status (January 1, 1957): New start.
Completion schedule:
Lands and damages: December 1957.
Relocations: June 1958.
Channels: September 1958.
Levees: November 1958.
Pumping plants: November 1958.
Permanent operating equipment: September 1958.
Entire project: November 1958.

JUSTIFICATION

The project will provide complete protection to almost all of the village of Roseville from the largest flood of record which occurred in 1950, with about 3 feet freeboard. Located within the protected area of about 65 acres are the business district, most of the industries and a portion of the residential area, containing about 200 residences, 32 commercial establishments, 7 industrial establishments (potteries) and principal transportation facilities, including State Route No. 75 and a branch line of the Pennsylvania Railroad. Floods of damaging proportion occur on an average of about twice annually and major floods are very frequent, three having occurred during the the past 16 years causing damages of about $317,000. The largest flood of record, June 1950, alone caused damages of $220,000, flood depths within the business district reaching up to 8 feet. Recurrence of a flood of this magnitude under present conditions would result in damages in excess of $300,000. The high frequency and flashy character of floods cause large recurring damages and have an adverse effect on the economic stability of the community.

Fiscal year 1958.—The requested amount of $500,000 will be applied for—

Initiate and complete land acquisition	$52,000
Initiate and complete relocation work	162,000
Initiate channel improvement	158,000
Initiate construction of levess	100,000
Engineering and design	8,000
Supervision and administration	20,000
Total	500,000

The earliest possible construction of the project is essential to provide protection to the community and relieve the inhabitants from the existing flood hazards. The fact that the community has undertaken, within its limited means, to secure some degree of protection is indicative of the urgency for positive relief from floods.

Non-Federal cost.—The initial investment required of local interests in construction of the authorized project is estimated at $59,000, broken down as follows:

Rights-of-way	$14,000
Highway and bridge relocations	42,000
Utility relocations	3,000
Total	59,000

Local interests are required to maintain the levee portion of the project upon completion. The estimated annual maintenance cost to local interests is $4,000.

In addition to the above, local interests have expended approximately $34,000 for channel-improvement work in an effort to secure some measure of flood protection pending construction of the authorized project.

Status of local cooperation.—The village of Roseville has given assurances that it will meet the requirements of local cooperation and raised $13,000 by subscription for that purpose prior to 1947. Muskingum County gave assurances in 1947 that it would contribute to construction of the highway-bridge approaches. In addition to constructing a new highway bridge, the county has constructed temporary bridge approaches which will require extension upon construction of the local protection project. The village has used about $3,000 of the $13,000 subscription money for excavation of a channel leading through the bridge and an additional $31,000 obtained by bond issue has been expended for further channel improvement. However, about $10,000 is currently on deposit to be applied to local cooperation requirements and it is expected that the city will have no trouble in fulfilling the requirements of local cooperation.

Comparison of Federal cost estimates.—No change in latest estimate submitted to Congress.

Mr. RABAUT. This is a new construction start. How long ago was planning money provided for this project?

Colonel SMYSER. We had planning money some years ago, before 1950. Then in 1950 we had the flood of record.

Mr. RABAUT. When was the planning money provided for this project?

Colonel SMYSER. Before 1950 we had the initial planning money. Then this project was held up with some others.

Mr. RABAUT. Supply for the record the year or years that you had planning funds.

(The information requested was supplied, as follows:)

The initial allocation of funds for planning the Roseville project was for fiscal year 1946 in the amount of $15,000. Subsequent allocations bring the total to date to $74,000.

Mr. RABAUT. The justifications say that Roseville raised $13,000 to meet requirements of local cooperation prior to 1947. Why have not construction funds been requested before?

Colonel SMYSER. Roseville raised that money, sir, before 1947.

Mr. RABAUT. Yes.

Colonel SMYSER. They used it and did certain work. We felt that this project which has been recommended many times, but it was not considered urgent. The local people did some work and they have been able to accomplish something useful there.

Mr. TABER. What work will be done under this project?

Colonel SMYSER. This is a channel improvement only, straightening out the channel and clearing it out, primarily through the city of Roseville.

Mr. RABAUT. Since it has been held up this long and since the benefit-cost ratio is only 1.22 to 1, why was it selected for inclusion in the 1958 budget?

Colonel SMYSER. We have for several years before tried to include it, and since it was a small project, each time it got, shall we say, pushed to one side. We felt it had been authorized since 1938 and it was appropriate to complete it. It has been on the books since 1938.

Mr. TABER. That was the only reason?

Colonel SMYSER. Once before we had construction funds, in 1951, but they were taken away because of the Korean emergency. So we reinstated it.

Mr. TABER. You have not spent anything yet, have you?

Colonel SMYSER. No, sir. We had the planing money previously.

Mr. RABAUT. You are asking for 7 percent of it this year.

Colonel SMYSER. Yes, sir; we have 7 percent this year. The amount requested will bring us to 53 percent.

ALLEGHENY RIVER RESERVOIR

Mr. RABAUT. The next project we will consider is the Allegheny River Reservoir, Pa. and N. Y.

Pages 96, 97, and 98 for the record.

(The material is as follows:)

ALLEGHENY RIVER RESERVOIR, PA. AND N. Y.

(New)

Location.—The dam is located on the Allegheny River in the vicinity of Kinzua, Pa., approximately 200 miles above the mouth of the river at Pittsburgh, Pa. At full pool elevation, the reservoir will extend to the vicinity of Salamanca, N. Y.

Authorization.—1936, 1938, and 1941 Flood Control Acts.

Benefit-cost ratio.—1.26 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$101,000,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	101,000,000	
Appropriations to June 30, 1956	252,000	
Appropriations for fiscal year 1957	384,000	
Appropriations to date	636,000	1
Appropriations requested for fiscal year 1958	1,000,000	2
Balance to complete after fiscal year 1958	99,364,000	

PHYSICAL DATA

Dam:

Type: Concrete gravity.

Height: 167 feet.

Length: 1,792 feet.

Spillway type: Gate controled, concrete ogee weir with stilling basin.

Reservoir capacity:	*Acre-feet*
Permanent	20,000
Flood control:	
Winter	910,000
Summer	585,000
Low flow regulation:	
Winter	195,000
Summer	520,000
Total	1,125,000

Status (Jan. 1, 1957): Construction not started

	Completion schedule
Lands and damages	June 1963.
Relocations	Do.
Pool preparation (reservoirs)	June 1961.
Dam	June 1962.
Roads	June 1963.
Levee	June 1962.
Pumping plant	Do.
Buildings, grounds, and utilities	Do.
Entire project	June 1963.

JUSTIFICATION

The Allegheny River Reservoir project is a unit of the comprehensive plan for flood control and other purposes in the Ohio River Basin and is a key unit in the reservoir system for the protection of the Allegheny Valley, the metropolitan area of Pittsburgh, and the upper Ohio Valley. The project will provide a substantial degree of flood protection for these extensively developed and heavily populated areas. Its value as a unit in a balanced system of flood control reservoirs is well established. The system of flood-control reservoirs completed in the Allegheny-Monongahela River Basin does not provide full flood protection. There remains a relatively large area of the Allegheny River Basin from which uncontrolled flood runoff continues to converge upon the Allegheny River Valley, Pittsburgh, and the upper Ohio River Valley. The Allegheny River Reservoir will control approximately 2,190 square miles of this drainage area, approximately 19 percent of the entire Allegheny River Basin, and is the largest reservoir in the authorized Allegheny-Monogahela Basin system. It will protect Warren, Pa., against the maximum flood of record, and in conjunction with the existing Tionesta Reservoir will practically eliminate Allegheny River floods at Oil City and Franklin, Pa. The project is designed to provide additional flood protection for other areas along the Allegheny River, the lower portion of which is part of the highly industrialized Pittsburgh area. The project will reduce a flood of the magnitude of the March 1913 flood approximately 2.7 feet at Pittsburgh, Pa. A severe flood occurred in the upper Allegheny River Basin during March 1956. The savings in direct flood damage credible to the Allegheny River Reservoir, had it been available for that flood, are conservatively estimated at $4,574,000. In addition, the project will provide a source of water for the general benefit of downstream areas as a result of low flow regulation.

Fiscal year 1958.—The requested amount of $1 million will be applied to—

Initiate acquisition of land	$50,000
Initiate relocations	600,000
Engineering and design	300,000
Supervision and administration	50,000
Total	1,000,000

The work programed for the budget year provides for orderly advancement of planning and for initiating improvements to the Chautauqua Branch of the Pennsylvania Railroad so that diversion of traffic from the railroad at the dam site to the Chautauqua Branch can be accomplished in time to permit scheduled start of construction of the dam in the following year.

Non-Federal cost.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $101 million reflects an increase of $3,500,000 over the latest estimate submitted to Congress of $97,500,000. The change is effected by price-level rise of $4,800,000 and reanalysis of requirements for supervision and administration resulting in a reduction of $1,300,000.

Mr. RABAUT. The original budget request for 1957 was for $100,000, but was increased to $384,000 in a supplemental request. Are you going to use all of the $384,000 appropriation this year?

Colonel SMYSER. Yes, sir.

Mr. RABAUT. What is your balance at the present time? What do you have unobligated now?

Colonel SMYSER. $294,000 obligated as of this date.

Mr. RABAUT. Out of $384,000?

Colonel SMYSER. Yes, and we have additional contracts which are coming up. We will obligate all the funds. We will not be able to expend all the funds.

Mr. RABAUT. But they will all be obligated during this fiscal year?

Colonel SMYSER. Yes, sir. You are aware we had considerable difficulty getting permission for our contractor to start the work on the surveys as well as the borings.

Mr. RABAUT. Since this is a new construction start, it would be well if you would describe this project and show us on the map just where it is located and the area to be covered by the reservoir.

AREA TO BE INUNDATED

Mr. TABER. Is this the project where you are going to flood out the Indians and take their land away from them so that they will have nothing left but a swimming pool?

Colonel SMYSER. This is the project that will put water on some of the Indian land.

Mr. TABER. And there is great opposition to it amongst the Indians?

Colonel SMYSER. The Allegheny Reservoir is located at the top here [indicating on map]. Warren, Pa., would fall about here. It is on the main stem of the river. It controls 2,190 square miles of drainage area in New York and Pennsylvania.

Mr. RABAUT. How much land are you going to inundate?

Colonel SMYSER. The reservoir itself will require approximately 21,000 acres. I have a detailed breakdown. Of the 21,000 acres, the total amount which would be Indian land would be 9,849 acres, approximately 47 percent.

Mr. RABAUT. I understand that there is considerable opposition to this project. Would you tell us about that?

OPPOSITION TO PROJECT

Colonel SMYSER. We have considerable opposition from the Seneca Indian Nation. The land in the Allegany Reservation which lies entirely in the State of New York was ceded to the Indians by a treaty in 1794. They have so far indicated that they are not prepared to discuss with us any method by which we can compensate them for their land or the use of their land, and we have so far not come to any understanding with them. They are simply taking the position that they want no part of it under any condition.

Mr. RABAUT. Will not that attitude hold you up?

Colonel SMYSER. It has caused some difficulty. We had to go into Federal court and condemn a right of entry for our survey parties.

Mr. RABAUT. Just to survey it?

Colonel SMYSER. Just to survey it, and we have asked them for permission to have an appraiser move through the area so that we can get the basic data as to what is the value of the real-estate holdings, and they have indicated they will not permit that, which would indicate we would have to go into condemnation to get that permission.

Mr. RABAUT. It has been claimed by several people and groups that the construction of this project would violate a treaty between the United States and the Indian tribes in the reservoir area. What is the corps' position on that matter?

Colonel SMYSER. We have studied it from a legal standpoint and I think we have had a satisfactory ruling by the Federal court of New York, which has in effect ruled that the right of eminent domain is appropriate if necessary.

Mr. RABAUT. Last year the estimated cost of this project was $97,500,000, and it has now gone up to $101 million, but I notice that the benefit-cost ratio has stayed exactly the same at 1.26 to 1. What is the explanation for that?

Colonel SMYSER. Sir, it just happens that we escalated the prices for the construction features——

Mr. RABAUT. And you escalated the benefits, and so you had the same ratio?

Colonel SMYSER. That is right.

Mr. RABAUT. Last year the committee was told that consideration was being given to including power features. What is the status of your studies on that?

Colonel SMYSER. We have not determined finally that power cannot be included, but our studies have progressed to the point that we will be able, if power is justified at a later date, to put it in without changing the design of the dam.

Mr. RABAUT. Are you making preparations for power?

Colonel SMYSER. We are not making preparations to build it in there, but if subsequently it is determined it would be economical, we can include it.

Mr. RABAUT. Do you not have to make some preparations?

Colonel SMYSER. We are going to have diversion tunnels which could subsequently be used if they had to be.

Mr. RABAUT. Are there any qeustions from other members?

Mr. RILEY. What type of land is this Indian land, Colonel?

Colonel SMYSER. It is a mixture. The Indian reservation ran up the valley for nearly 30 miles. It was a narrow strip about 1.6 miles wide. Part of the land has been cleared and is suitable for cultivation. A substantial part is still the way it was when it was given to the Indians in 1794, and it is suitable for hunting and that is all.

Mr. RILEY. But no great portion of it is cultivated?

Colonel SMYSER. There is some cultivation in the area, but I would not say that the majority of the land is cultivated.

Mr. RILEY. Does not the Allegheny have frequent floods around Warren and Oil City and up in that area?

Colonel SMYSER. Yes, sir. In fact, they had a good one in March 1956, which caused damage in the order of a little over $4 million in that vicinity.

Mr. RILEY. My impresion is that floods have been frequent in that area. Is that correct?

Colonel SMYSER. They have had reasonably frequent floods in the area of Warren, Pa.

Mr. RILEY. Would this dam give them maximum protection?

Colonel SMYSER. Practically 100-percent protection.

Mr. RILEY. What about Oil City.

Colonel SMYSER. It would give very substantial protection to all of these, because it controls the upstream drainage from those towns.

Mr. RILEY. How large a city is Franklin, Pa.?

Colonel SMYSER. I will have to supply that.

(The information follows:)

(The 1950 population of Franklin was 10,006.)

Mr. RILEY. Warren is quite a city?

Colonel SMYSER. Warren in quite a city, but I am not familiar with Franklin.

Mr. RILEY. That is all.

Mr. BOLAND. What was the extent of the flood damage in 1956 to Warren?

Colonel SMYSER. It was in the order of $4 million.

NEED FOR LARGE DAM

Mr. BOLAND. Why do you need such a large dam here? The reservoir capacity will be 1,125,000 acre-feet total.

Colonel SMYSER. This is not to protect Warren only. This is protection for the lower Allegheny Valley. It gives substantial protection in the Pittsburgh area and the entire Ohio Basin.

Mr. BOLAND. Do you need a dam this large in this area?

Colonel SMYSER. This is one of the best reservoir sites in the Ohio Basin.

Mr. BOLAND. But would a smaller flood-control dam suffice?

Colonel SMYSER. No, it would not suffice. You would get substantially less benefits. In fact, you could go to a very small dam and not get sufficient benefits to justify building it. This has a very good cost-benefit ratio.

Mr. TABER. How good?

Mr. BOLAND. 1.26 to 1.

Mr. TABER. That is pretty close to the ragged edge.

Colonel SMYSER. Well, it is very difficult on a large project like this to run your benefits up.

Mr. BOLAND. You state a benefit-cost ratio of 1.26 to 1.

Colonel SMYSER. An annual benefit such as we have here represents a very large sum of money, even though on a ratio basis it may be only 1.26. That .26 represents a lot of money.

Mr. BOLAND. It is not possible to construct a smaller dam which would take care of the flood damage in this particular area, which would impound the waters at flood time and release them when the flood period is past?

Colonel SMYSER. We made a detailed study of the possibility of trying to control the floods by means of reservoirs on the tributaries above here. We first did not obtain the control, and second, it appeared that the cost to obtain anything like the control would be excessive, to say nothing of the fact that those smaller dams would inundate considerably more area than the big one.

Mr. BOLAND. How many flood-control dams do you have on the Allegheny between Pittsburgh and Salamanca?

Colonel SMYSER. None at all. We have some navigation dams similar to the Ohio River dams, but they have no flood-control benefits whatsoever.

Mr. BOLAND. That is all.

Mr. FENTON. How far is it from the dam site up to Salamanca?

Colonel SMYSER. As I remember it is in the order of approximately 30 miles.

Mr. FENTON. How will that affect Kinzua Creek?

Colonel SMYSER. Of course, it will inundate the little town of Kinzua and raise the water level in Kinzua Creek. That shows on the project map that is available.

Mr. FENTON. That would certainly enlarge that creek, then?

Colonel SMYSER. Yes, sir. It will be the major arm other than the main Allegheny River bed itself.

Mr. FENTON. Where are the 9,000 acres the Indians have?

Colonel SMYSER. Looking at the map you have, the 9,000 acres start just at the New York-Pennsylvania State line and run north right along the thread of the river. The reservoir extends from the New York State line to about, on the map you have before you, where the Allegheny River forks beyond Salamanca where the two creeks come in.

Mr. FENTON. How many Indians are involved?

Colonel SMYSER. Living in the actual reservoir, Doctor, we estimate there are from 300 to 500 Indians maximum.

Mr. FENTON. They do not want any part of this project?

Colonel SMYSER. Sir, their leaders do not want any part of this project. We have so far dealt through the council, which is headed by Mr. Cornelius Seneca. We have not talked directly to any of the independent landowners.

Mr. FENTON. You say this project would completely eliminate floods at Oil City and Warren?

Colonel SMYSER. That is really incidental to the project, which is primarily for the whole Allegheny Basin as well as the upper Ohio.

Mr. FENTON. What damages did Warren have in the last flood?

Colonel SMYSER. I believe I have stated approximately $4 million in March of 1956.

Mr. FENTON. This is a part of the comprehensive Ohio River Basin protection plan?

Colonel SMYSER. Yes. This is included in the comprehensive plan for the Ohio River Basin.

I would like to correct the figure I gave of $4 million damage in Warren in March of 1956. That should be $4.5 million.

Mr. FENTON. What is the area of the Ohio River Basin?

Colonel SMYSER. The whole Ohio River Basin is 203,000 square miles, approximately.

Mr. FENTON. What percentage would this project take care of?

Colonel SMYSER. The drainage area above this is a little over 2,000 square miles; actually it will control a drainage area of 2,190 square miles.

Mr. FENTON. Out of how many?

Colonel SMYSER. 200,000, roughly. But since this is very near the headwaters it will benefit all of the area below it.

Mr. FENTON. That is all.

STORAGE CAPACITY COMPARED TO RIVER FLOW

Mr. TABER. Colonel, you say you have 1,100,000 acre-feet of storage in the whole project. What is the normal flow of the river at the dam site?

Colonel SMYSER. The average flow is 3,759 cubic feet per second. That is the average flow at the dam site.

Mr. TABER. What is the maximum flow of record?

Colonel SMYSER. At the dam site, 60,500 cubic feet per second.

Mr. TABER. 60,500?

Colonel SMYSER. Yes, sir; 60,500 cubic feet per second.

Mr. TABER. When was that?

Colonel SMYSER. That was in March of 1956.

Mr. TABER. March of 1956. What damage was caused there, if any?

Colonel SMYSER. In Warren alone the damage was estimated at $4.5 million.

Mr. TABER. Now, you have a maximum of 60,000 cubic feet per second. How many acre-feet of water would that be?

Colonel SMYSER. I believe it takes 2 acre-feet of storage to provide 1 day-second-foot. That really does not represent a figure.

Mr. TABER. How many days would it take to fill the reservoir if you had 60,000 cubic feet per second?

Colonel SMYSER. I can figure it up very quickly: 9 or 10 days, approximately.

Mr. TABER. It would take 10 days to fill that reservoir. You never have a flood condition that creates any such flow as 60,000 cubic feet per second that lasts that long, do you?

Colonel SMYSER. We have studied the possibilities of storms in the area and we find it is possible to have peak inflows in the reservoir in the order of 200,000 cubic feet per second if conditions that have happened in other places would occur in this basin. A standard figure for estimating any maximum runoff is approximately 100 cubic feet per second per mile of the area, so that roughly speaking 200,000 cubic feet per second would be a fair approximation of your maximum possible runoff in that area.

Mr. TABER. That would be for 1 day?

Colonel SMYSER. That is your peak, sir.

Mr. TABER. You have never had any such flow as that in that territory, have you?

Colonel SMYSER. You have had flows compatible with that in other parts of the Ohio Basin.

Mr. TABER. But not in that area?

Colonel SMYSER. Not yet. If Hurricane Hazel had moved slightly in another direction we would have.

Mr. TABER. But that only lasted half a day.

Colonel SMYSER. Yes, sir; but the better way to figure that is approximately——

Mr. TABER. That is the trouble with your figuring; these things last half a day and you figure out a project to protect against something that lasts several days.

Colonel SMYSER. That is not the way we figured it, Mr. Taber. The way we generally figure the capacity of these reservoirs is in the number of inches of storage over the drainage area. Allegheny

Reservoir is estimated to be able to take approximately 8 inches of runoff from its entire drainage basin.

Mr. TABER. It would be a dry dam, anyway, would it not?

Colonel SMYSER. No, sir. You would have a small conservation pool.

Mr. TABER. It would not amount to much, would it? You say 20,000 acre-feet?

Colonel SMYSER. Yes, sir.

Mr. TABER. Out of 1,125,000. That is not quite 2 percent. So your permanent pool would only be 2 percent of your capacity. It would not amount to anything.

Colonel SMYSER. It is small, sir.

Mr. TABER. Your justification for this project as a flood-control project is based entirely on the supposition that the biggest flow of record would have to be multiplied by at least 3 and probably 4 and would have to run several days to fill it up. It is a pretty long shot in the dark to try to work out benefits that would justify the expense.

Colonel SMYSER. Sir, an average of 8 inches of rainfall over an area of that size is not at all unusual.

Mr. TABER. Eight inches of rainfall in an area of that size in 24 hours?

Colonel SMYSER. Not 8 inches in 24 hours. That is getting 8 inches of runoff. The great floods we had in 1937 on the Ohio show it is possible over larger drainage areas to have in excess of 8 inches of rainfall.

Mr. TABER. But even with 8 inches you would not fill your dam.

Colonel SMYSER. Actually, 7.8 inches of runoff.

Mr. TABER. Would fill that dam in a week?

Colonel SMYSER. Yes, sir.

Mr. TABER. Or 10 days. Well, if you took your maximum figure of record it would take you 18 days anyway to fill it, probably 20. It sounds like you were stretching your figures out pretty heavy. Eighteen days is just about what it figures on your maximum flow. You never get that kind of thing. This is a whale of a big project—$100 million, a little better. I would like to have you put in the record a table showing the detail of how you arrived at your 1.26 to 1 benefit-cost ratio.

Colonel SMYSER. We will furnish that.

(The information requested was supplied as follows:)

The average annual benefits from Allegheny Reservoir based on 1956 values are as follows:

Flood control	$4,093,000
Low-flow regulation	878,000
Total average annual benefits	4,971,000

These benefits, compared with the estimated average annual charges of $3,958,000 (1956 base), give a benefit-cost ratio of 1.26 to 1.

The foregoing benefits for the Allegheny Reservoir project are based mainly on the prevention of flood damages throughout the some 200 miles of the Allegheny River below the dam and along the Ohio River at and below Pittsburgh. The damages prevented are determined by appraising the damages to all types of property resulting from various flood stages, and establishing a relationship between the damages and stages at index points for damage reaches along the Allegheny and Ohio Rivers. Frequencies of the various flood stages at these index points, and corresponding damages, were analyzed as a basis for estab-

lishing average annual damages. Average annual flood-control benefits for the authorized reservoir system above Pittsburgh were determined by routing the effects of the reservoirs on a number of past floods and evaluating the difference between the original and modified damage-frequency relationships. By such an analysis made in 1948, the average annual benefits for the authorized system were determined to be $17,250,000 on the basis of 1948 values. These benefits were prorated among the various reservoirs in the system on the basis of the relative effectiveness of the respective reservoirs on a median flood at Pittsburgh, which was developed from the routing studies mentioned above in order to reflect the various distributions of flood runoff from the basin. The analysis of the median flood indicated that, out of a total reduction of 6.50 feet from the system, 1.01 feet would result from the Allegheny Reservoir. Thus, the average annual flood-control benefits credited to the Allegheny Reservoir, as a part of the authorized reservoir system, is 1.01 /6.50×$17,250,000, or $2,680,000 based on 1948 prices. Escalated to 1956 values, the flood-control benefits become $4,093,000.

Benefits from the authorized low-flow regulation resulting from operation of Allegheny Reservoir were evaluated by a United States Public Health Service analysis of acid and other pollution conditions in the various stream reaches of the Allegheny and upper Ohio River and of the effects of improved water quality on these conditions. The benefits were estimated as of 1948 values to be $576,000, and were escalated to 1956 values of $878,000.

Mr. TABER. I believe that is all I have at this time.

Mr. RILEY. The committee will stand at recess until 10 o'clock tomorrow.

TUESDAY, APRIL 30, 1957.

Mr. RABAUT. The committee will come to order.

Dr. Fenton, I understand you have a few questions.

Mr. FENTON. Colonel Smyser, when we adjourned yesterday we were talking about the Allegheny River Reservoir.

Colonel SMYSER. Yes.

DAM HEIGHT AND POOL ELEVATION

Mr. FENTON. You know there is a controversy up there. I am just wondering how high that dam is.

Colonel SMYSER. The pool elevation which will be reached about once every 300 years is 1,365 feet.

Mr. FENTON. What effect would a low dam have on that area above?

Colonel SMYSER. A lower dam would reduce the total area that would be in the easement area—that is, the part that is subjected to infrequent flooding. It would not change the part which would be subject to permanent inundation.

Mr. FENTON. In other words, the lower dam would not give you the protection?

Colonel SMYSER. No, sir.

The lower dam would have less capacity and would not give the protection to the basin.

Mr. FENTON. There would be no thought of a compromise on the height of the dam?

Colonel SMYSER. The actual height we have is a compromise, in effect, because we could have used for the benefit of the Ohio considerably more capacity. However, we have taken the height which is economical. This present pool goes, at maximum elevation, all the way to Salamanca, N. Y. It would be impossible to go higher than

that because then you would start to have damages in Salamanca. So we have compromised already.

Mr. FENTON. What is the height of the dam?

Colonel SMYSER. 167 feet. The elevation of the maximum flood-control pool is 1,365 feet.

Mr. FENTON. Have there been estimates of the savings downstream to the people because of the height of this dam?

Colonel SMYSER. There have been. We have estimated in determining the annual benefits for flood control that they will be $3,887,200 annually on 1955 base and 4,093,000 on 1956 base.

Mr. FENTON. Throughout the whole area?

Colonel SMYSER. Yes. Those are the benefits on the Allegheny River, on the upper Ohio, and any other benefits that may accrue through flood control only.

Mr. FENTON. What is the greatest flood of record?

Colonel SMYSER. The greatest flood of record that we have at the dam site itself was 60,500 cubic feet per second.

Mr. FENTON. When was that?

Colonel SMYSER. That was in March of 1956.

Mr. FENTON. How far is it from Pittsburgh to the dam?

DOLLAR BENEFITS OF PROJECT

Colonel SMYSER. It is about 200 miles.

Mr. FENTON. At present day rates, and if this dam had been constructed, what would the savings have been in the damages caused by that 1956 flood?

Colonel SMYSER. I have a record of the various damages that would have been saved based on current prices for the last 5 fiscal years.

In March 1956 the estimated savings would have been $5,213,000.

There was a flood in March 1955 in which the estimated savings would be $1,204,000.

In 1954 there were two crests. We would have had damages prevented of $798,000 and $2,987,000, respectively.

In 1952, in January, there was another flood and the damages preventable then would have been $4,379,000.

Then I have a large list of major floods running back to 1951, 1950, 1945, and 1942, and the damages preventable range to a maximum of $29,930,000 for the flood that occurred in December 1942.

Mr. FENTON. Does that include all the damages down to Pittsburgh?

Colonel SMYSER. Yes; it does.

Mr. FENTON. I believe that is all.

Mr. TABER. Do you have a breakdown of the $3 million so that we could see what they are?

Colonel SMYSER. I can present you with one, sir. It is based primarily on a study of the damages of all the floods. From that we plot various curves, and based on the gage heights, we go to these curves and obtain the damages. We can submit those curves for the record, if you wish.

Mr. TABER. I would like to see a breakdown of the figures. If you do not have any breakdown, you do not know what it is.

Colonel SMYSER. Yes; we know what it is.

Mr. TABER. I am afraid you do not. That is the trouble with this whole layout on this proposition. You have not gone into it to the point where you understand what you are doing. You told us yesterday evening there was capacity enough there to take care of 18 days' flow at the peak of the greatest flood we have ever had at that place. If this reservoir was one-fifth as big in capacity it would still take care of any flood you could possibly have on the basis of past history.

Colonel SMYSER. That is not correct, sir.

Mr. TABER. Why not? I am afraid that you do not go into these things deeply enough.

Colonel SMYSER. We have. May I give you some figures?

Mr. TABER. I have gone into so many things that the engineers have done where they do not get into the meat of the question at all.

Colonel SMYSER. You have to know how much of the total water that will go down the river in a period you want to retain. Let us take the 1936 flood which was the highest flood for damages caused at Pittsburgh. During the period of that flood, which was caused by rainfall that fell over a period of several weeks, in the Allegheny Basin, the one that we are talking about, the total rainfall, plus these snowmelts—because there is snow up there—produced runoff of 8.9 inches.

Mr. TABER. Over what period of time?

Colonel SMYSER. Over a period of about 5 weeks. That was the runoff that went down the river. That was the actual water that went down the Allegheny River. Therefore, the fact that we have 7.8 inches over the drainage area in capacity indicates that that 1936 flood would have filled the reservoir and would have run water over the spillway.

Mr. TABER. Not at 60,000 cubic feet per second. You would not get 60,000 feet for any 5 weeks' period.

Colonel SMYSER. Naturally you would not. But you would get sufficient volume of water to more than fill the reservoir, sir.

Mr. TABER. That just does not add up.

Colonel SMYSER. Yes; it does.

Mr. TABER. From the figures you have given me that is not correct.

Colonel SMYSER. The total amount of water that went down the Allegheny River during that period was equivalent, counting the snowmelt, to 8.9 inches of water on every foot of area in the Allegheny Basin. In other words, you had 2,190 square miles of drainage area above the dam. The amount of water that came from that area was equivalent to not quite 9 inches of water running from that entire area. This reservoir for flood control will only hold 7.8 inches of water from the entire drainage area.

Mr. RABAUT. Would 7.8 inches of water from the entire area fill the reservoir?

Colonel SMYSER. Yes. You would have a little difference there of almost 1.2 inches whch the reservoir could not have stopped and that would have run over the spillway and would have gone on down.

Mr. RABAUT. Does this reservoir catch all the water from the area?

Colonel SMYSER. Since this is on the main stream of the Allegheny River, it controls the drainage area above the dam site.

Mr. RABAUT. Is that the acreage you are figuring in arriving at this 7.8 inches?

Colonel SMYSER. That is right. Every acre above the dam site is included in the 2,190 square miles.

Mr. RABAUT. You said the dam height is 167 feet.

Colonel SMYSER. One hundred and sixty-seven feet. That is the actual height of the dam.

Mr. RABAUT. What was that figure of 1,365 feet?

Colonel SMYSER. The elevation of the maximum flood control pool above sea level was 1,365 feet.

Mr. RABAUT. But the depth is no more than 167 feet?

Colonel SMYSER. It would not be that much because we have a freeboard on the dam itself and of course it tails out.

Mr. RABAUT. Why do you make reference to this 1,365 feet above sea level?

Colonel SMYSER. It indicates the height of the water surface and it enables the people, for instance in the town of Salamanca or anywhere else, to know the height to which the water would rise. It would permit you to identify the line on the surface of the ground.

Mr. RABAUT. They would know their relationship to sea level, so they would know their relationship to the maximum pool.

Colonel SMYSER. Yes, everyone in the area.

Mr. TABER. Just to show you how good your figures are, you have 2,200 square miles. There are 640 acres to the square mile.

Colonel SMYSER. Yes.

Mr. TABER. That would equal 1,408,000 acres and 8 inches times that would give you about 940,000 acre-feet.

There would have to be releases from the dam all the time.

Colonel SMYSER. There would have to be releases below bank full capacity until such time as methods of operation indicated we wished to reduce it. We could completely turn it off, Mr. Taber.

Mr. TABER. But you would not turn it off to start with?

Colonel SMYSER. As a practical matter, we would let a certain amount go through in order to keep the water in the river flowing.

Mr. TABER. Surely.

Colonel SMYSER. So that gives you in effect an opportunity to have actually greater capacity in the sense of retaining total volume.

Mr. TABER. Frankly, you have a pretty tough job trying to justify that dam at that particular spot.

I would like to see those figures on the benefit ratio.

Colonel SMYSER. We will see that you get them, Mr. Taber. They will be in the same form that they are for every flood-control project that has ever been adopted.

BENEFIT-COST RATIO

Mr. TABER. Take this particular one. You have $101 million for the cost of it. At 3½ percent interest that would be over $3½ million per year just for the interest on the money. You have depreciation of about $2 million if you figure the usual 50-year life for the project, you say. You are running way behind on your benefits to cost. I just do not figure it anything like you do. I hate to see the Government getting stuck that bad.

Colonel SMYSER. You have considered only the flood-control benefits. The actual total annual charges on this project will be in the order of $3,776,000 on 1955 base and $3,958,000 on 1956 base.

Mr. TABER. That is not correct, because you have not allowed anything for depreciation. You have just allowed the interest.

Colonel SMYSER. We plan to amortize within the period of 50 years.

Mr. TABER. Even that throws you out of balance by $2 million. On top of that you have your maintenance and operation. You would not operate that size job for nothing. At least I never heard of doing it.

Colonel SMYSER. The average operation and maintenance cost is estimated at $97,000. I would say $100,000 in round figures.

Mr. TABER. For as large a dam as that?

Colonel SMYSER. Yes. The only operation you really have is the operation of the gates that release your water and regulate your flow.

Mr. TABER. You would have a bunch of stuff growing in that area that would be a menace to your dam and everything else. You would have to keep that clean. How may acres would be involved in this reservoir?

Colonel SMYSER. The total amount of land in the reservoir below the elevation of 1,365 feet is 21,000 acres.

Mr. TABER. You would have to spend more money than $97,000 to keep that in shape, cut the trees down, and so on.

Colonel SMYSER. We are basing the estimate of these costs on the operation of all the other reservoirs we are operating and maintaining successfully.

Mr. BOLAND. On an operation as large as this?

Colonel SMYSER. Yes. There are others as large as this, one at Wolf Creek, for instance, and Center Hill is about the same size.

Mr. BOLAND. Where is that?

Colonel SMYSER. It is on a branch of the Cumberland River.

Mr. BOLAND. Is there not power in that project?

Colonel SMYSER. Yes, but that has nothing to do with the cost of maintenance.

Mr. BOLAND. But it would have something to do with the cost of operation, would it not?

Colonel SMYSER. It would run the cost up for the power, but I am saying——

Mr. BOLAND. You are not telling me that the cost of operating and maintaining Center Hill is comparable with the cost of operating and maintaining this reservoir here?

Colonel SMYSER. Taking care of the reservoir area would be comparable.

Mr. BOLAND. Mr. Taber is interested in knowing the cost of operation and maintenance of this project over the course of a year.

Colonel SMYSER. Approximately $100,000 a year.

Mr. BOLAND. What does it cost you to maintain and operate Center Hill?

Colonel SMYSER. I can supply that figure for you.

Mr. BOLAND. I do not think they would be comparable.

Colonel SMYSER. I was merely giving you the figure to show you we had the basis for estimating how much cost we would have in the reservoir management and those things not connected with power.

Mr. BOLAND. But with regard to the Allegheny River, the only maintenance and operation you would have there would be the lifting of the gates and the regulation of the flow; is that not right?

Colonel SMYSER. I can give you——

Mr. BOLAND. In addition to that, Mr. Taber suggests that since there will be 21,000 acres that this will cover, there will be a lot of growth that you will have to cut down. This will be almost a dry reservoir.

Colonel SMYSER. It would not be completely dry.

Mr. BOLAND. No, but there would not be a very large acreage permanently covered with water.

Colonel SMYSER. There would be 3,500 acres.

Mr. BOLAND. That would be covered by water?

Colonel SMYSER. Yes.

Mr. BOLAND. At all times?

Colonel SMYSER. The total acreage is 21,000.

Mr. BOLAND. What would be the permanent pool?

Colonel SMYSER. The permanent pool would be 3,500 acres.

Mr. TABER. Look at page 96 of your justifications. It says that the permanent pool is 20,000 acre-feet.

Colonel SMYSER. Twenty thousand acre-feet is the volume of the water. I was asked the number of acres covered by water. I was trying to give you the figure that you asked for. I gave you the number of acres that would be covered.

Mr. TABER. Is that the normal pool?

Colonel SMYSER. That is the permanent pool, the pool that will always be flooded.

Mr. TABER. How many acres did you say that would be?

Colonel SMYSER. Thirty-five hundred.

Mr. TABER. There is 20,000 acres in the whole area?

Colonel SMYSER. Twenty-one thousand in the entire reservoir area. The upper stages of that would be flooded approximately only once in 300 years.

Mr. TABER. So you are laying out this dam to take care of a situation that would happen once every 300 years?

Mr. RABAUT. Would the flood that occurred last year be as high as the one that you calculate to occur once every 300 years?

Colonel SMYSER. It would not be quite the 300-year frequency, but it would be well up in the frequency. The fact that something may happen once in 300 years does not mean that it would not happen tomorrow.

Mr. RABAUT. How close was the flood that we had in 1956 to the one that would happen once in every 300 years?

Colonel SMYSER. I would have to supply that figure. We have frequency curves, and I can supply that.

(The information requested follows:)

The March 1956 flood has an estimated frequency at the Allegheny Dam of approximately once in 45 years.

FLOOD CREST REDUCTIONS AT PITTSBURGH

Mr. RABAUT. If the dam were built, how much would it reduce the crest at Pittsburgh of the flood that would happen once every 300 years?

Colonel SMYSER. I have stage reductions. I do not have the actual amount of water. I have stage reductions, how many feet it would reduce the crest. It varies from 2½ feet on down, sir.

Mr. RABAUT. At Pittsburgh?

Colonel SMYSER. At Pittsburgh.

Mr. RABAUT. Two and a half down to what?

Colonel SMYSER. On down to a foot, depending upon the amount of water you store out of the flood.

Mr. RABAUT. The maximum then against the peak at Pittsburgh would be 2½ feet?

Colonel SMYSER. It depends entirely on the flood. Taking the flood of March 1936—and the natural stage at Pittsburgh was 46 feet.

Mr. RABAUT. What was the 46 feet that you referred to?

Colonel SMYSER. That is the gage. The flood stage in nearly every town depends upon the gage. That was the gage height. The floods at Pittsburgh are 25 feet on the gage. When the river gets to 25 feet at Pittsburgh, they consider that they are having a flood. In 1936, which was the highest flood in Pittsburgh, the gage reached 46 feet, which is 21 feet over the flood stage.

Mr. RABAUT. What is the average of the floods?

Colonel SMYSER. It is a little difficult to say what the average of a flood is.

Mr. RABAUT. The various gage heights then.

Colonel SMYSER. The various gage heights of the major floods prior to July 1, appear to be on the order of around 35 feet.

Mr. RABAUT. By how many feet do the existing projects protect Pittsburgh now?

Colonel SMYSER. There is a series of reservoirs above Pittsburgh which reduce the stages in varying amounts. If the Allegheny had been in operation with the authorized reservoir systems, the stage reductions would have reached a maximum of 12.4 feet in 1936.

Mr. RABAUT. When you refer to 25 feet, just what do you mean?

Colonel SMYSER. That is the flood stage. That is when the river is going out of its banks.

Mr. RABAUT. So everything above 25 feet is over the banks?

Colonel SMYSER. That is when the damage starts.

Mr. RABAUT. If we had all of these protecting dams and reservoirs that we are talking about, we would be holding back 12 feet off the top of these floods?

Colonel SMYSER. Correct, sir.

Mr. BOLAND. Could you tell me what Allegheny alone at that time would have reduced the flood?

Colonel SMYSER. Allegheny alone at that time would have reduced the crest about six-tenths of a foot.

Mr. BOLAND. You said a moment ago with all the other reservoirs in operation, plus Allegheny, the reduction would be 12.4.

Colonel SMYSER. Yes; for that particular flood.

Mr. BOLAND. Without Allegheny and with all the present reservoirs in operation, and for that particular flood, what would be the reduction?

Colonel SMYSER. I have it the other way round. Allegheny alone would have contributed six-tenths of a foot. The other authorized reservoirs, except Allegheny, would have reduced it a little over 11½ feet.

Mr. BOLAND. So, if Allegheny had been in operation at the time with all the other reservoirs, it would have reduced the flood stage at that time about six-tenths of a foot?

Colonel SMYSER. On that particular flood.

Mr. BOLAND. And that is the flood of record?

Colonel SMYSER. At Pittsburgh; but it is not the flood of record on the Allegheny River, sir.

Mr. RABAUT. What year was that flood?

Colonel SMYSER. We have been talking about two, sir. There are two separate floods. The 1936 flood was the greatest one in Pittsburgh. Insofar as the Allegheny alone was concerned, the flood of maximum stage at the dam site was in 1956, a 20 years' difference.

Mr. RABAUT. I would like to get down to how much protection this is going to give. If you have a high flood this would give what protection?

Colonel SMYSER. It would vary.

Mr. RABAUT. In this particular instance you figured that it would give protection of how much?

Colonel SMYSER. Six-tenths of a foot in 1936.

Mr. RABAUT. Now, with regard to the flood that you had last year, and if they were all in operation, this would give you about 2 feet?

Colonel SMYSER. Two and a half feet. In 1936, if I may repeat the figures, at Pittsburgh, with all the reservoirs in operation, including Allegheny, there would have been a stage reduction of 12.4 feet. In 1956, if I may repeat, the reservoirs, including the Allegheny in operation, would have reduced the stage at Pittsburgh by 6.5 feet, of which Allegheny would have contributed 2.5 feet. It depends entirely upon where the water comes from.

Mr. RABAUT. Speaking about the flood of last year, you said that you had a runoff of 8.9 inches on every square foot of territory and you said that the reservoir would take 7.8 inches. It depends upon where the water falls what effect it will have on a certain section of the area?

Colonel SMYSER. That is correct.

Mr. RABAUT. That is where the misunderstanding comes in. It runs all the way in one instance from six-tenths of a foot to 2½ feet in another instance.

Colonel SMYSER. At Pittsbugh, based on damage studies, that six-tenths of a foot would be the difference roughly of $28 million worth of damage.

Mr. TABER. What sort of flood walls do you have at Pittsburgh?

Colonel SMYSER. None, sir.

Mr. TABER. There are other reservoirs below this one on the Allegheny, between there and Pittsburgh?

Colonel SMYSER. There are other reservoirs on tributaries. This is the only reservoir on the main stream of the Allegheny River.

Mr. TABER. Are the others above or below this dam site?

Colonel SMYSER. All below, sir.

STORAGE IN OTHER RESERVOIRS ABOVE PITTSBURGH

Mr. TABER. How many acre-feet storage do you have in the reservoirs below?

Colonel SMYSER. I do not have the figure. I can supply that if you wish.

Mr. TABER. Supply it for each of the reservoirs below and give the names of the reservoirs.

Colonel SMYSER. I will supply that information.

(The requested information follows:)

Completed reservoir projects in Allegheny River Basin above Pittsburgh, Pa.

Reservoir	Capacity in acre-feet		
	Flood control	Permanent	Total
Tionesta	125,600	7,800	133,400
East Branch Clarion River	[1] 83,300	1,000	84,300
Mahoning Creek	69,700	4,500	74,200
Crooked Creek	89,400	4,500	93,900
Conemaugh River	270,000	4,000	274,000
Loyalhanna	93,300	2,000	95,300

[1] For flood control and low-water regulation.

Mr. TABER. What about the other reservoirs, are they in the nature of dry dams? They are not power dams because they are not large enough to produce power.

Colonel SMYSER. No, sir. All of them have a permanent pool, sir.

Mr. TABER. They are not very large?

Colonel SMYSER. No, sir. They are similar to Allegheny.

LOSS OF LIFE AND MONETARY DAMAGES IN RECENT FLOODS

Mr. FENTON. Has there been any loss of life in any of those floods?

Colonel SMYSER. Thirty-six people were lost in 1936.

Mr. FENTON. Can you estimate the accumulated amount of damages done from 1936?

Colonel SMYSER. Yes. I have a tabulation of that which I can supply for the record. I can supply that tabulation complete, year by year.

(The requested information follows:)

Damages by years, based upon values at the time of flood occurrence are given below for the Allegheny Valley below Allegheny Dam and in the Ohio Valley to the vicinity of Wheeling, W. Va.

Year	Estimated damage at time of occurrence	Year	Estimated damage at time of occurrence
1936	$113, 429, 000	1948	$6, 455, 000
1937	28, 087, 000	1949	0
1938	0	1950	3, 444, 000
1939	53, 000	1951	0
1940	2, 224, 000	1952	7, 860, 000
1941	297, 000	1953	30, 000
1942	29, 844, 000	1954	15, 300, 000
1943	0	1955	4, 800, 000
1944	0	1956	8, 200, 000
1945	11, 469, 000		
1946	0	Total 1936 through 1956	231, 492, 000
1947	0		

BRADFORD, PA.

Mr. RABAUT. Now, we will take up the project at Bradford, Pa. We will insert in the record at this point pages 102 through 105 of the justifications.

(The pages referred to are as follows:)

BRADFORD, PA.

(Continuing)

Location.—The city of Bradford is in northern McKean County, Pa., at the junction of the East and West Branches of Tunungwant Creek, a tributary of the upper Allegheny River. The project is located along Tunungwant Creek and the lower portions of its principal tributaries, East Branch and West Branch, and will provide local protection for Bradford and vicinity.

Authorization.—1950 Flood Control Act.

Benefit-cost ratio.—1.2 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$8, 200, 000	
Estimated non-Federal cost	2, 200, 000	
Cash contributions	0	
Other costs	2, 200, 000	
Total estimated project cost	10, 400, 000	
Appropriations to June 30, 1956	589, 000	
Appropriations for fiscal year 1957	[1] 1, 350, 000	
Appropriations to date	1, 939, 000	24
Appropriations requested for fiscal year 1958	1, 000, 000	36
Balance to complete after fiscal year 1958	5, 261, 000	

[1] Excludes permanent transfer from project of $150,000.

PHYSICAL DATA

Channels:

Improvement of 20,000 feet along Tunungwant Creek.

Improvement of 5,000 feet along East Branch.

Improvement of 8,000 feet along West Branch.

Adjustment of mouths and lower reaches of Foster Brook, Boliver Run and Kendall Creek to improved main channel conditions aggregating about 2,000 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Relocations	100	
Channel:		
Unit 1	100	
Unit 2	0	November 1958.
Unit 3	0	September 1959.
Unit 4	0	November 1959.
Entire project	5	Do.

JUSTIFICATION

Bradford and vicinity, which has a population of more than 20,000 and within a radius of 10 miles a population of about 35,000, is the main business center of the surrounding area and has long been known for its importance in producing oil, oil refining, manufacturing, trade and transportation. The oilfields after 50 years of production still produce annually over 12 million barrels of the highest grade crude oil. The producers are now engaged in intensive scientific methods of secondary oil recovery. About 540 acres, 27.4 percent of the total area of the city of Bradford, is subject to flooding. The 1947 flood affected 27 industrial, 350 commercial and 1,350 residential properties, 14 churches, and other establishments in Bradford and the valley downstream to Foster Brook. One death was atributed to this flood and 13 persons suffered injury or shock. The improvement will produce real and important intangible benefits by preventing loss of life and bodily injury to residents, eliminating serious fire hazards during floods when oil-covered water spreads through the town, and preventing insanitary conditions caused by polluted flood water. Average annual benefits for the project are estimated at $494,500, all flood control. Completion of the project at an early date is needed to prevent future disruptions of the industry and commerce of the area and to prevent the recurrence of large flood losses, both tangible and intangible.

Fiscal year 1958.—The requested amount of $1 million will be applied to:

Continue construction of unit 2	$225,000
Continue construction of unit 3	560,000
Initiate construction of unit 4	50,000
Engineering and design	40,000
Supervision and administration	125,000
Total	1,000,000

The work programed for the budget year provides for orderly advancement of construction toward the ultimate objective of providing urgently needed flood protection.

Non-Federal cost.—The initial investment required of local interests in construction of the authorized project is estimated at $2,200,000 broken down as follows:

Lands and damages	$371,500
Relocations:	
Highway bridges	471,100
Utilities and oil lines	532,500
Buildings and other structures	824,900
Total	2,200,000

Local interests are required to maintain the project upon completion. The annual cost for maintenance is estimated at $20,800.

In addition, local interests have been active in helping to solve the flood problem and have accomplished limited improvements at a reported cost of $776,400.

Status of local cooperation.—The Bradford District Flood Control Authority furnished formal assurances of local cooperation on April 22, 1955. Local interests have fulfilled the requirements of local cooperation for units 1 and 2 of the project representing about one-third of the total estimated project requirements. Construction of unit 1 was recently completed and a contract has been

awarded for consruction of unit 2. Unit 3 is in the planning stage. Some preliminary work has been accomplished by the authority and it is expected that when detailed construction plans are available early in 1957, the authority will proceed to carry out its responsibility. It is expected that rights-of-entry for unit 3 will be available by May 1957.

Comparison of Federal cost estimates.—The current Federal cost estimate of $8,200,000 reflects a decrease of $450,000 from the latest estimate submitted to Congress of $8,650,000. The change is affected by a net decrease in cost of the channel feature due to modifications in design and receipt of favorable bids amounting to $355,000; and to reductions in the cost of relocations, supervision and administration totaling $95,000 due to more detailed design and re-analysis of requirements.

Mr. RABAUT. Why was a permanent transfer of $150,000 made from this project? Could not that have been used to further its completion this year?

Colonel SMYSER. No, sir. The local people had considerable difficulty in obtaining the rights-of-way and it was not until October of last year that we finally obtained the last of them, which resulted in a delay of several months, and we could not use that money efficiently this year.

Mr. RABAUT. You have had an appropriation of $1,350,000 this year and previous to that you had $589,000. With appropriations to date you have 24 percent of the funds needed to complete the project; is that correct?

Colonel SMYSER. Correct.

Mr. RABAUT. And the request of $1 million for next year brings it up to 36 percent.

It is going to take 5 or 6 more years to finish the project at that rate?

Colonel SMYSER. We will still have to work for 3 or 4 years. Our present schedule calls for completion in the fiscal year 1960.

Mr. RABAUT. Only $1 million was requested for 1958, and I understood that the Corps has reduced this request to $500,000?

Colonel SMYSER. That is correct.

Mr. RABAUT. That is going to lengthen the time that it will take to finish the work. Are the local interests still keeping on schedule in carrying out their part of the project?

Colonel SMYSER. They are, sir.

Mr. RABAUT. You have no trouble there?

Colonel SMYSER. We have had no further trouble.

Mr. FENTON. Why the cut of $500,000?

Colonel SMYSER. We will have an unexpended balance this year at the close of the year of $1,275,000, and with the additional $500,000 we will be able to prosecute the existing contract on unit No. 2 at an efficient rate of progress.

Mr. FENTON. When do you contemplate finishing this project?

Colonel SMYSER. This project is scheduled to be completed in the fiscal year 1960.

Mr. FENTON. Is that with the cut of $500,000?

Colonel SMYSER. At this time we feel that it will not prolong the completion. We have the unexpended balance to apply to this project.

SUTTON RESERVOIR

Mr. RABAUT. We will now take up Sutton Reservoir, in West Virginia.

We will insert in the record at this point pages 108, 109, 110, and 111.

(The pages referred to are as follows:)

SUTTON RESERVOIR, W. VA.

(Continuing)

Location.—On Elk River 101 miles above the confluence of the Elk and Kanawha Rivers at Charleston, W. Va., and about 1 mile above the town of Sutton, W. Va.

Authorization.—1938 Flood Control Act.

Benefit-cost ratio.—2.15 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$29,400,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	29,400,000	
Appropriations to June 30, 1956	3,161,000	
Appropriations for fiscal year 1957	[1] 5,130,000	
Appropriations to date	8,291,000	28
Appropriations requested for fiscal year 1958	8,000,000	55
Balance to complete after fiscal year 1958	13,109,000	

[1] Includes permanent transfer to project of $630,000.

PHYSICAL DATA

Dam:

Type: Concrete gravity.

Height: 220 feet (maximum).

Length: 1,178 feet.

Spillway:

Type: Gate controlled, concrete ogee with stilling basin.

Capacity: 222,000 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Conservation pool (minimum—winter)	4,100
Conservation pool (maximum—summer)	20,500
Flood control (minimum—summer)	244,800
Flood control (maximum—winter)	261,200
Total capacity	265,300

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	36	June 1959.
Relocations:		
Roads	19	Do.
Railroads	56	Do.
Cemeteries and utilities	5	December 1958.
Reservoir, coal mine sealed	31	September 1958.
Dam	2	June 1959.
Roads, recreation facilities, buildings, and permanent operating equipment, not started		Do.
Entire project	19	Do.

JUSTIFICATION

Completion of the Sutton project will greatly reduce a flood hazard that exists in the narrow and densely occupied industrial valley of the Kanawha River at and in the vicinity of Charleston, W. Va. Extreme floods of record have inundated virtually the entire valley floor of the Elk and Kanawha Rivers and the occurrence of a great flood similar to that of 1861 under the present congested condition of the valley would result in stark tragedy. The flood of 1861 covered the area now occupied by the Charleston business district to depths ranging from 2 to 11 feet and residential areas were flooded to like depths. The Bluestone Reservoir, on New River, controls but 4,565 square miles of the total drainage area above Charleston, which totals 10,420 square miles, and it is apparent that additional reservoir control is required to assure dependable protection from major floods. The industrial developments on the flood plain at and below Charleston, located at the confluence of the Elk and Kanawha Rivers, include great basic alcohol, ammonia, and chlorine products plants which help to make the Kanawha Valley one of the greatest chemical centers of the world, a major United States naval ordnance plant, and large general manufacturing industries, all of which are of utmost importance to the national defense and economic welfare. A major portion of the processing and manufacturing works of the Carbide & Carbon Chemicals Corp. is located on a large island in the Kanawha River downstream from Charleston. The island is subject to inundation by major floods, and if flooded damage to the property on this island alone would amount to approximately $6 million. The major industries located in the flood plain have a combined value of over $1 billion, and an extreme flood, similar to that of 1861, would result in a major degree of destruction to most of the plants and force some of them out of operation for undetermined but long periods of time. This project will also make available a source of water which will be of general benefit to downstream areas as a result of low-flow regulation.

Fiscal year 1958.—The requested amount of $8 million will be applied to—

Continue acquisition of reservoir lands	$350,000
Continue relocation of State secondary roads including land acquisition for new locations	435,000
Complete grading work for B. & O. RR. relocation under a continuing contract	350,000
Complete fabrication of bridge superstructures required for railroad relocation work	160,000
Initiate trackwork for B. & O. RR. relocation under a continuing contract	465,000
Continue relocation of untilities in reservoir area	50,000
Continue construction of dam under a continuing contract	5,335,000
Initiate reservoir clearing	90,000
Engineering and design	150,000
Supervision and administration	615,000
Total	8,000,000

Completion of the project at the earliest possible date is very desirable to furnish flood protection in the highly industrialized areas downstream. The Kanawha Valley has experienced rapid industrial expansion in recent years and many new industrial developments continue to locate in the flood plain. A high percentage of the industries crowded into the narrow valley are essential to the national economy of the country and the Kanawha Valley industrial center is considered to constitute one of the major flood risks in the Nation at this time. The requested amount of $8 million is required to permit orderly and economical construction progress during the budget year.

Non-Federal cost.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $29,400,000 reflects a decrease of $4,800,000 from the latest estimate ($34,200,000) submitted to Congress. The decrease is due primarily to favorable bids received on relocation contracts and the contract for the dam. Savings on these features of work amounted to $4,460,000, of which $3,700,000 was on the dam. Supervision and administration costs were reduced $330,000 based on a reevaluation of requirements, and minor refinements in other features of work resulted in a further reduction of $10,000.

Mr. TABER. There is $8 million requested here.

Colonel SMYSER. On this one, sir, we are well along on all the subsidiary items, such as relocation and we let in September of last year the contract for the dam itself. The contractor is well organized. He has his equipment on the site. We should, with ease, spend every cent of money that we have.

Mr. TABER. Do you expect to use it all this year, all that you have available?

Colonel SMYSER. I believe, unless he slows up, he will more than use it.

BARKLEY DAM (LOWER CUMBERLAND LOCK AND DAM)

Mr. RABAUT. Now we come to the Barkley Dam, previously known as lower Cumberland lock and dam, Tennessee and Kentucky.

We will insert into the record pages 115 through 118 of the justifications.

(The pages referred to are as follows:)

BARKLEY DAM (LOWER CUMBERLAND LOCK AND DAM), CUMBERLAND RIVER, TENN. AND KY.

(Continuing)

Location.—On the Cumberland River, 30.5 miles above the mouth, in Lyon and Livingston Counties, Ky., near Grand Rivers, Ky., and approximately 160 river miles below Nashville, Tenn.

Authorization.—River and Harbor Act of 1954.

Benefit-cost ratio.—1.23 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (ultimate installation)	$167,000,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	167,000,000	
Appropriations to June 30, 1956	276,000	
Appropriation for fiscal year 1957	1,100,000	
Appropriations to date	1,376,000	1
Appropriations requested for fiscal year 1958	5,000,000	4
Balance to complete after fiscal year 1958	160,624,000	

PHYSICAL DATA

Dam:

Type: Concrete gravity and rolled earth fill.

Length: 7,314 feet (does not include width of lock or powerplant).

Height: 130 feet.

Spillway:

Type: Gate controlled, concrete ogee weir.

Capacity (maximum pool): 620,000 cubic feet per second.

Gates: 20—35 by 45 feet.

Reservoir capacity:

	Acre-feet
Flood control (elevation 375–359)	[1] 1,273,000
Power (elevation 359–354)	[1] 282,000
Minimum pool (below elevation 354)	693,000

[1] Normal operation during nonflood season; flood control allowance to be increased to 1,555,000 acre-feet (elevation 375–354) during season of major flood flows.

Power installation:
Ultimate: 5 units at 26,000 kilowatts; 130,000 kilowatts.
Presently planned: 5 units at 26,000 kilowatts; 130,000 kilowatts.
Lock:
Type: Concrete gravity.
Chamber size (clear dimensions): 110 by 800 feet.
Lift (normal): 57 feet.
Status (Jan. 1, 1957): Entire project: 0 percent.
Canal:
Length: 1.5 miles.
Width (bottom): 600 feet.
Depth (minimum pool): 24 feet.
Completion schedule:
Entire project: April 1964.
Land acquisition: September 1962.
Relocations: November 1962.
Reservoir clearing: September 1962.
Dam closure: April 1962.
Lock: June 1960.
Canal: June 1963.
Power on line:
1st unit, 26,000 kilowatts, July 1962.
2d unit, 26,000 kilowatts, November 1962.
3d unit, 26,000 kilowatts, March 1963.
4th unit, 26,000 kilowatts, July 1963.
5th unit, 26,000 kilowatts, November 1963.

JUSTIFICATION

Completion of this project will provide for the comprehensive utilization of the water resources of the Cumberland River below Cheatham lock and dam (now under construction) including navigation, flood control, and hydroelectric power production. The navigation component of this project is of major importance since existing locks on the Cumberland River below Cheatham lock and dams are obsolete and do not provide for present needs. Some of the five crib-type dams to be replaced are over 40 years old and work on the new project should progress as rapidly as possible before serious trouble develops.

Indicative of the demand for use of the Cumberland River for navigation purposes is the continuing increase in traffic volume experienced during recent years in spite of the inadequate existing facilities. Tonnage moved on this river at the present time, together with indicated additional traffic expected to develop, stamps the waterway as one having considerable potential toward becoming one of the more important arteries of the inland waterway system. Substantial flood control benefits to the Ohio and Mississippi Rivers will be realized by construction of the project. Hydroelectric power from the proposed installation of 130,000 kilowatts capacity will be integrated into the regional requirements of regions 19 and 20 of the Federal Power Commission. The power demands of the TVA system, into which the Barkley power may be fed, are rapidly expanding. The addition of the project to the power system of the Cumberland—which includes the completed Dale Hollow, Wolf Creek, and Center Hill projects—will enhance the dependability of the system's power output. Moreover, the value of the increased flows from the upstream completed projects would be wasted without the main river power dams. In addition, provision is made in this project for a canal connecting with Kentucky Reservoir on the Tennessee River in the interest of interchange of navigation traffic and to permit utilization of the flow of both rivers to the best advantage. The canal will increase the annual electrical energy output of the Barkley project 120,000,000 kilowatt-hours. River traffic between the Cumberland River and points on the inland waterway system downstream from the Tennessee River will save approximately 20 miles by going through the Kentucky pool. Also, the canal will provide an alternative route to the Ohio and would avert a complete stoppage of river traffic which would otherwise occur in case of unavoidable closure of the Barkley or Kentucky locks.

Fiscal year 1958.—The requested amount of $5,000,000 will be applied to—

Continue land acquisition	$1,180,000
Initiate and complete construction of earth dam, left bank	500,000
Complete construction of cofferdam and excavation for lock	2,400,000
Initiate contract for turbines and generators	150,000
Complete left bank access road	30,000
Engineering and design	460,000
Supervision and administration	280,000
	$5,000,000

With the funds requested for fiscal year 1958, the project can be advanced as scheduled in order to permit completion and realization of the multiple benefits to be obtained as quickly and economically as possible.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—No change from latest estimate submitted to Congress. A readjustment has been made within the overall estimate, however, between the estimates for engineering and design and supervision and administration.

Mr. RABAUT. The budget request last year was for $200,000 for planning funds and Congress appropriated $1,100,000, so that planning could be completed and construction started. Has construction been started on this?

Colonel SMYSER. The main structure is out for bids now, sir.

Mr. RABAUT. What do you classify as the main structure?

Colonel SMYSER. It will be the start of the lock coffer dam and the left abutment dam. That is the initial start, the lock cofferdam and the dam.

Mr. RABAUT. In proceeding with the planning have you encountered any difficulties, or have you changed your construction plans any from what they were last year?

Colonel SMYSER. No, sir; we have not.

Mr. RABAUT. Last year the committee was told that the authorized limit of cost is $36 million, but the estimated actual cost is $167 million. What steps have been taken to have the authorization increased?

Colonel NAUMAN. I will have to supply that for the record.

(The requested information follows:)

The current monetary authorization of $36 million for the Barkley Dam is sufficient to cover the scheduled appropriation requirements through fiscal year 1959. Prior to the time for preparation of a budget request for fiscal year 1960, the Bureau of the Budget and the Public Works Committees will be informed of the need for additional monetary authorization. In accordance with previous practice, if and when additional monetary authorization is approved by Congress, it will be in an amount sufficient for the scheduled appropriation requirements for the succeeding 3 or 4 years.

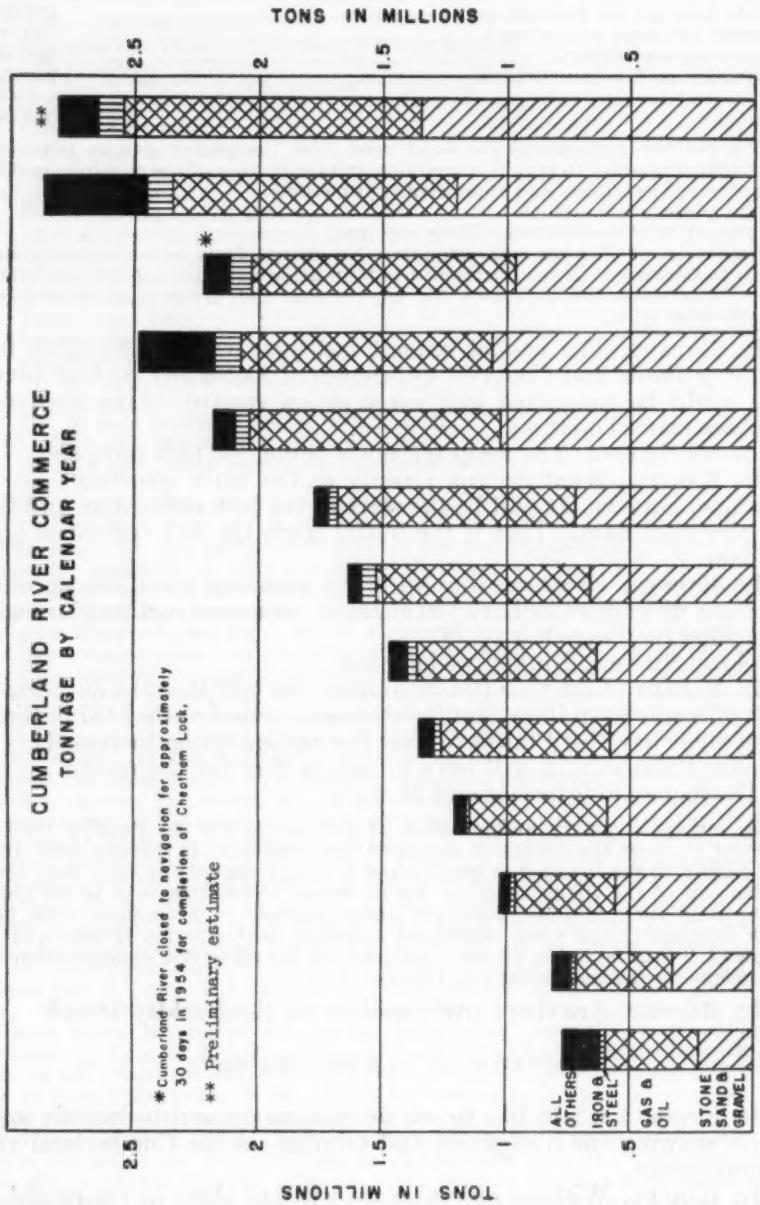
Mr. RABAUT. Are there any questions on the Barkley Dam?

COMMERCE ON CUMBERLAND RIVER

Mr. EVINS. I would like to ask unanimous consent to include some charts showing the navigation and tonnage on the Cumberland and its importance.

Mr. RABAUT. Without objection we will put them in the record.

(The information requested follows:)


CUMBERLAND RIVER COMMERCE
TONNAGE BY CALENDAR YEAR
TONS IN MILLIONS
2.5
2
1.5
1
.5
* Cumberland River closed to navigation for approximately 30 days in 1954 for completion of Cheatham Lock.
** Preliminary estimate
ALL OTHERS
IRON & STEEL
GAS & OIL
STONE SAND & GRAVEL
1944
45
46
47
48
49
50
51
52
53
54
55
1956

Waterborne commerce, Cumberland River, calendar year 1956

Commodity:	Tons
Sand and gravel	783,782
Limestone	565,316
Coal	700
Petroleum products	1,203,000
Petroleum asphalt	62,000
Wheat flour	2,015
Sugar	3,092
Molasses	5,840
Sulfur	37,200
Salt	616
Nonmetallic minerals	3,531
Pig iron	5,486
Scrap iron	49,800
Iron and steel products	65,098
Construction machinery	1,500
Merchant vessels	10,244
Cement	17,524
Total tons	2,816,744
Total ton-miles	349,907,600

Waterborne commerce, Cumberland River, calendar year 1955

[Tons]

Classes and commodities	Inbound	Outbound	Upbound	Downbound	Total
Vegetable food products:					
Wheat flour	1,517				1,517
Sugar	6,976				6,976
Molasses	18,972				18,972
Nonmetallic minerals:					
Coal				7,100	7,100
Motor fuel	976,839				976,839
Gas oil	42,465				42,465
Kerosene	52,195				52,195
Residual fuel oil	36,095				36,095
Petroleum asphalt	30,002				30,002
Petroleum products, not elsewhere classified	8,724				8,724
Sulfur	39,001				39,001
Limestone		388,873	70,866	13,981	473,720
Salt	500				500
Sand and gravel	6,860		646,800	80,175	733,835
Nonmetallic minerals, not elsewhere classified		7,260			7,260
Metals and manufactures:					
Pig iron		2,923			2,923
Scrap		48,040			48,040
Iron and steel products	52,514				52,514
Hardware	21				21
Metal manufactures, not elsewhere classified	20	1,549			1,569
Machinery and vehicles:					
Construction machinery		1,248		300	1,548
Merchant vessels		15,425			15,425
Chemicals and related products: Industrial chemicals	1,574				1,574
Miscellaneous:					
Commodities, not elsewhere classified	1,263				1,263
Government materials		127,900		189,611	317,511
Total	1,275,538	593,218	717,666	291,167	2,877,589
Total ton-miles					329,208,520

NOTE.—In reproducing wholly or in part data contained herein, indicate source: Corps of Engineers, U. S. Army.

Mr. EVINS. I also ask permission to place in the record a brief statement on the value of the Cumberland River projects for navigation, for flood control, and for power production.

Mr. RABAUT. Without objection, the statement will be placed in the record at this point.

(The statement referred to follows:)

Navigation.—According to preliminary figures, commerce hauled on the Cumberland River in 1956 about sustained the record haul set in 1955 of over 2,800,000 tons and exceeded it on a ton-mile basis. Actual preliminary figures were 2,807,944 in total tonnage and 348,262,000 in total ton-miles as compared to 329,208,520 ton-miles in 1955. The greater ton mileage is attributed to an increase in long-haul commodities which may originate at many points on the inland waterways system such as Houston, Tex.; New Orleans and Baton Rouge, La.; Kansas City, Mo.; Chicago, Ill.; Cincinnati, Ohio; or Pittsburgh, Pa. Ton-mileage is an important consideration in evaluating the benefits of the overall waterways system on a national basis as opposed to a purely regional or local basis. The sustained high tonnage has occurred despite the fact that navigation facilities below Cheatham project are grossly inadequate to accommodate modern towing equipment—a situation which can be relieved only by completion of construction of Barkely Dam.

Flood control.—The value of the completed flood control projects was dramatically illustrated during the recent floods of January-February wherein approximately $7,400,000 in damages were averted in the Cumberland River Basin. This protection was afforded by Wolf Creek, Dale Hollow and Center Hill projects, as well as the completed or operationally completed local flood protection projects in Kentucky. This flood, under natural conditions, would have been the third highest in the 100 years of record, and at Nashville alone would have caused damages totaling $5,750,000. By skilled operation of the three upstream projects the river at Nashville crested at 41.6 feet instead of 55 feet which would have occurred without the reservoirs. Benefits, of course, extended beyond the Cumberland River Basin to the Ohio and Mississippi Rivers; however, the dollar value of these savings has not yet been computed.

Power production.—Electrical power production from hydroelectric generating plants at Wolf Creek, Dale Hollow and Center Hill projects set a new record in fiscal year 1956 with 1,415,596,000 kilowatt hours generated. There was an increase of 71 million kilowatt-hours in actual production over anticipated average output based on the original design estimates. Power produced by the Corps of Engineers' plants is distributed by the Tennessee Valley Authority and marketed by the Southeastern Power Administration. The latter agency has advised that $5,070,000, which was returned direct to the Treasury of the United States, was received from the sale of this power during fiscal year 1956. With heavy rainfalls in the current fiscal year and ample water stored in the reservoirs which may be used for power production, there is indication that the record rate may be sustained.

STATUS OF FUNDS FOR BARKLEY DAM

Mr. TABER. At the present time what is the status of the funds for this project.

Colonel SMYSER. At the present time we have obligated those funds which were made available for the acquisition of the real estate, contracts for surveys and real-estate appraisals, relocation studies, and other engineering matters.

Mr. TABER. Is there a structure there at the present time?

Colonel SMYSER. No, sir; there is not.

Mr. TABER. You have $29,700,000 for land damages; $25,800,000 for relocations; $6,500,000 for a reservoir; $18,900,000 for a dam; $22,900,000 for a lock; $38,600,000 for a powerplant; and $10 million for a canal.

Colonel SMYSER. Yes.

Mr. TABER. Is there much navigation at that point?

Colonel SMYSER. Yes; there is substantial navigation.

Mr. TABER. How much?

Colonel SMYSER. Last year the Cumberland through this area had 2,710,000 tons of navigation. It has been increasing and it increased a little over a half a million in the last year of record, 1955.

POWER FEATURES

Mr. TABER. Is there a big power feature in this?

Colonel SMYSER. There will be installed a capacity of 130,000 kilowatts, sir.

Mr. TABER. How much of the time will that be operated? There is not water enough to run it all the time, is there?

Colonel SMYSER. It will run most all the time. This canal included in here will cross-connect with Kentucky Lake. We will be able to exchange water with Kentucky Lake so that the powerplants in Kentucky Dam, or the powerplant here, is able to use the surplus water depending upon whether it is in the Tennessee Basin or the Cumberland Basin.

Mr. TABER. You are going to dig a canal for about $10 million?

Colonel SMYSER. That is correct, sir.

Mr. TABER. Between the two; is that correct?

Colonel SMYSER. That is correct, sir.

Mr. TABER. What is the going rate in that territory for power?

Colonel SMYSER. The Federal Power Commission gave us a statement and the annual benefits were figured on a going rate of 7.12 mills. That was the basis of the annual benefits. That is capacity and energy both, sir.

Mr. EVINS. The completion of this project will mean the substantial completion of the flood control and navigation features in the whole river. It is an important link; is it not?

Colonel SMYSER. It is a very important link, sir.

Mr. EVINS. It is one that the Corps has been studying for many years and made plans for, and they are now at the stage where they are about to accomplish their objective?

Colonel SMYSER. Yes.

Mr. TABER. How much of the time would you figure you could sell this electricity for that figure?

Colonel SMYSER. That is not the figure at which electricity could be sold. That was the figure that the Federal Power Commission gave us as its value to be used in considering the benefits. The power will be turned over to the Southeastern Power Administration who will sell it. The Tennessee Valley Authority has already advised us they can use all the power that will be generated at this project.

Mr. TABER. The Tennessee Valley Authority rates are about half of that 7.12 mills, are they not?

Colonel SMYSER. By law, sir, we would be required to sell this power—not the Corps—but section 5 of this Flood Control Act of 1944 requires us to recover not less than 4.92 mills.

(The following information was furnished later:)

The Flood Control Act of 1944 requires that power be disposed of at the lowest possible rates, consistent with sound business principles, for the recovery of the cost of producing and transmitting the electric energy, including amortization of the capital investment allocated to power over a reasonable period. The Corps of Engineers' tentative estimate of the rate conforming to this requirement at the Barkley project is 4.92 mills.

Mr. TABER. The law requires that?

Colonel SMYSER. Yes.

Mr. TABER. But that does not apply to the TVA.

Colonel SMYSER. That is the minimum at which the Southeastern Power Administration can sell the power, sir. They cannot go below that.

Mr. TABER. How does the TVA get its rates down to where they do?

Colonel SMYSER. I cannot answer for the Tennessee Valley Authority.

Mr. RABAUT. What was that rate, 4.9 mills?

Colonel SMYSER. Yes. 4.92 mills would be the minimum rate at which power must be sold to recover the cost which we are required to recover.

Mr. TABER. If you use a rate of 4.92, that would certainly greatly reduce any benefits from power; would it not?

Colonel SMYSER. Yes, sir, it would reduce it materially.

Mr. TABER. It would pretty near cut it in two. Instead of its showing a benefit-cost ratio above unity, it would be a minus quantity.

Colonel SMYSER. It would reduce the power part by $1.3 million roughly, sir.

Mr. TABER. It would reduce it roughly by one-third or a little more than a third.

Colonel SMYSER. That is right.

Mr. TABER. And it would knock off almost $3 million a year.

Colonel SMYSER. No, sir.

Mr. TABER. It would not?

Colonel SMYSER. The annual benefit for power, sir, based upon privately financed steam, is $4,273,000. The annual charges, based merely upon recovering the amortization of capital investment and cost of producing and transmitting electric energy, would be $2,952,000 or a difference of $1,321,000.

Mr. TABER. You mean that is on the basis of the 4.92 or the 7.12?

Colonel SMYSER. The upper figure was the 7.12, sir. The 4.92 was the second figure, the smaller figure.

BREAKDOWN OF BENEFITS AND COSTS

Mr. TABER. What is the breakdown of the benefits and costs for this project? Can you give us the items of benefit?

Colonel SMYSER. Yes, sir. The annual power benefits are $4,273,000 which I already gave you——

Mr. TABER. Didn't you tell me the actual would be $2,952,000?

Colonel SMYSER. No, sir; I did not say the actual. I said that was the minimum which by law it had to be sold for.

Mr. TABER. What are the other benefits?

Colonel SMYSER. You have an annual flood-control benefit of $2,304,000; annual navigation benefit of $3,352,000.

Mr. TABER. $3,352,000?

Colonel SMYSER. Yes, sir; a total of $9,929,000.

Mr. TABER. And you took off $1.3 million from that and you get about $8.6 million. What are your cost figures?

Colonel SMYSER. Our annual cost figures, sir, were based on $7,714,000 as given to Congress last year. Those were the annual charges.

Mr. TABER. That would give you a benefit-cost ratio of about 1.1; would it not?

How many ton-miles did you figure in your navigation benefits?

Mr. EVINS. Would the gentleman yield?

I have some figures, Mr. Taber. The source of the information is the Corps of Engineers. Waterborne commerce in 1956, including coal, fuel, nonmetallic materials, manufactured products, pig iron, scrap, hardware, machinery, chemicals, and related products, totaled 349,907,600 ton-miles.

Mr. FENTON. What does it mean in tonnage?

Colonel SMYSER. 2,816,744 tons for 1956.

Mr. TABER. Please submit a detailed statement for the record showing the savings expected on that tonnage and especially the calculated benefits per ton-mile.

(The requested information follows:)

The total ton-miles of commerce for the calendar year 1955, for the Cumberland River, below and including Nashville, was 318,347,848. This involved the movement of 4,710,471 tons of commerce. The estimated average annual navigation benefits for the project is $3,352,000. Therefore, a benefit is expected to accrue to the project in the amount of 1 cent per ton-mile of commerce. This is not a difference per ton-mile of commerce over other means of transporting the commerce, since the benefits realized are to a great extent those that will accrue to existing water-borne commerce through the modernization of the facilities.

The benefits for this project were computed as follows:

1. Savings in Federal operation, maintenance and replacement costs for the existing facilities being replaced	$851,000
2. Savings on existing traffic, through savings in time in traversing the locks, that is, elimination of lockage delays in breaking tows and through easier operation through a deeper waterway	1,444,000
3. Benefits to accrue to prospective traffic which cannot use the existing waterway	794,000
4. Savings on existing traffic through the provision of an alternate outlet for Cumberland and Tennessee River traffic, thereby shortening the route for Cumberland River traffic and eliminating the need of an auxiliary lock at Kentucky Dam	263,000
Total	3,352,000

Mr. EVINS. It is estimated that upon completion of the project the tonnage will also substantially increase above the figures which you have supplied the committee.

Colonel SMYSER. I think it is almost certain to do that.

Mr. EVINS. I have a statement here from the Chief of the Engineering Division who states that upon completion of the modern facilities in the lower section to accommodate large tows, water traffic will increase substantially, and we are receiving many inquiries from coal shippers.

Colonel SMYSER. The small locks limit the ability of modern shipping to use the Cumberland River. We have the depth but we cannot go through the small locks.

Mr. EVINS. The canal feature also would permit an interchange of water and commerce?

Colonel SMYSER. And it furnishes an auxiliary lock, in effect, for either Kentucky lock or this one, so that if one did get down there would be a way to continue through commerce.

Mr. EVINS. So to facilitate the complete utilization of the two basins and the water which is adjacent this project is a very important and essential one.

Colonel SMYSER. Yes, sir.

POWER RATES

Mr. RABAUT. Before we leave this project, what rate did you say the public power commission gave you for the power there?

Colonel SMYSER. Privately financed steam, sir, considering both the energy and the capacity, works out at 7.12 mills.

Mr. RABAUT. And the minimum rate to be charged there is 4.92 mills?

Colonel SMYSER. That is the amount by law which is a minimum.

Mr. RABAUT. Under this legal minimum what would be the benefit-cost ratio? Would it be about 1–1?

Colonel SMYSER. Mr. Taber figured it as approximately 1–1, sir.

Mr. RABAUT. Is that for the whole project?

Colonel SMYSER. Yes, sir.

Mr. EVINS. You do not agree with that figure, do you, Colonel Smyser?

Colonel SMYSER. No, sir.

Mr. TABER. He didn't say he didn't agree with it.

Mr. RABAUT. Supply for the record what your calculation is.

Colonel SMYSER. Yes, sir.

(The information referred to is as follows:)

The benefit-cost ratio for the overall Barkley project is, as presented in the justification, 1.23 to 1. However, if power benefits were based on a rate of 4.92 mills the benefit-cost ratio would be 1.07 to 1.

Mr. FENTON. You said something about steam rates. You are putting hydro power here, are you not?

Colonel SMYSER. The Federal Power Commission gives us the value of power and the alternate of privately financed steam power to give us an idea of the value of the electricity that could be generated.

Mr. RABAUT. That is the guidepost.

Mr. FENTON. As a mater of fact, this project is essentially a flood-control project?

Colonel SMYSER. Essentially navigation and flood control, sir. It would be economically justified, I believe, if all the power facilities were completely eliminated.

Mr. FENTON. Power facilities eliminated?

Colonel SMYSER. You would take out the powerhouse, $38 million, take out all the cost for power, transmission system, and the project still would be economicaly justified. For navigation we can figure a benefit-cost ratio on the order of 1.89.

Mr. FENTON. To make this hydro-power feature work would it not be necessary later on to put in steam?

Colonel SMYSER. No, sir. The Corps of Engineers, sir, does not sell energy. We will turn it over to whoever we are told by the Southeastern Power Administration. It is our understanding that they will integrate it into the Tennessee Valley Authority network.

Mr. TABER. You said the cost-benefit ratio if you leave out the power features would be 1.8 to 1 and the figure I got is 1.1. Your power is figured at a loss.

Colonel SMYSER. No, sir.

BENEFIT-COST RATIOS BY SEPARATE PURPOSE

Mr. TABER. It has to be if you increase your benefit-cost ratio by leaving out the power. That means that your power would be operated at a loss.

Colonel SMYSER. No, sir. The figure you used, Mr. Taber, showed navigation only. We considered this as a possibility of building it

on any one of three bases. Would it be justified for power alone? Would it be justified for navigation? Would it be justified for flood control?

The separate figures are power 1.02; navigation 1.89; flood control 1.09.

However, since we combine it all in a single unit we gave a benefit-cost ratio of 1.23.

Mr. TABER. Flood control is 1.09?

Colonel SMYSER. Yes, sir.

Mr. TABER. And navigation is what?

Colonel SMYSER. 1.89.

Mr. TABER. That means that the navigation is the only one that is really justified.

Colonel SMYSER. No, sir. It means the greatest benefit is from navigation, sir. It means it has the highest element of benefit.

Mr. TABER. That is what I understood. It was all by itself. The others come out behind.

Colonel SMYSER. No, sir. They are still economically justified by themselves.

Mr. TABER. Power was how much?

Colonel SMYSER. 1.02, sir.

Mr. TABER. But that is figured on the 7.12 rate; is it not?

Colonel SMYSER. Yes, sir.

Mr. TABER. If you figure it on the 4.92 rate, which is the legal minimum, and which is 0.92 better than the cost of the big utilities in that territory, you come out behind on the power.

Colonel SMYSER. We do not figure the value of power, sir. The Federal Power Commission gives it to us.

Mr. TABER. I know, but you come out behind if you use the 4.92 figure; do you not?

Colonel SMYSER. We wouldn't have built it if we used that figure, sir.

Mr. TABER. That is where the trouble is. It is 0.92 more than it costs the private utilities in that neighborhood to produce it. That is what they sell it for; is it not?

Mr. EVINS. Would the gentleman yield?

Mr. TABER. I am through.

Mr. EVINS. I understand from your testimony, Colonel Smyser, that each and all of the various features of the project are economically feasible within themselves?

Colonel SMYSER. They are, sir.

Mr. EVINS. Your extensive studies have shown that power is profitable, navigation is extremely profitable, and flood control is a very profitable and important feature in this project?

Colonel SMYSER. Yes, sir.

Mr. EVINS. When you combine the three you get an exceptionally good cost-benefit ratio.

Colonel SMYSER. That is correct.

Mr. EVINS. We have already pointed out the potentialities and possibilities of further increases in navigation and flood control which is vitally important to the whole basin. This is a necessary link in reaching the basin's potential.

Colonel SMYSER. That is correct, sir.

Mr. EVINS. And another feature of the project is tying it in with existing lake facilities where the water can be more efficiently utilized?

Colonel SMYSER. That is correct.

Mr. EVINS. So from every angle, both from a cost-benefit ratio standpoint, plus potential possibilities, it is a very worthy and meritorious project?

Colonel SMYSER. It would not have been recommended if we had not thought so, sir.

Mr. FENTON. The location of this dam is in the vicinity of coal-producing mines?

Colonel SMYSER. Not that I am aware of at this moment, sir. I am not aware of any major coalfields in the vicinity of this particular dam. There is plenty of coal in Kentucky, sir.

Mr. FENTON. That is why I asked.

Colonel SMYSER. But it is not on the Cumberland River, sir. That was my point.

The coal-producing fields of Kentucky are primarily in the Green River Basin, some in the upper headwaters of the Kentucky River, a very great amount in the Big Sandy Basin.

Mr. FENTON. Where do you get your information as to the feasibility of putting hydropower features in the project?

Colonel SMYSER. The Federal Power Commission, sir. By law we must get them to make a report on it and furnish us that. We rely on the Federal Power Commission to advise us whether power is economically feasible and whether it should be installed.

CHEATHAM LOCK AND DAM

Mr. RABAUT. The next item is Cheatham lock and dam, Tennessee. We will insert pages 122, 123, and 124 in the record.

(The information referred to is as follows:)

CHEATHAM DAM AND LOCK, TENNESSEE

(Continuing)

Location.—On the Cumberland River, 148.7 miles above the mouth, in Cheatham and Dickson Counties, Tenn., about 9 miles northwest of Ashland City, Tenn., and approximately 42 river miles below Nashville, Tenn.

Authorization.—1946 River and Harbor Act as modified by the act of June 19, 1952.

Benefit-cost ratio.—1.25 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (ultimate installation)	$30,300,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	30,300,000	
Appropriations to June 30, 1956	24,966,000	
Appropriations for fiscal year 1957	2,900,000	
Appropriations to date	27,866,000	92
Appropriations requested for fiscal year 1958	1,375,000	96
Balance to complete after fiscal year 1958	1,059,000	

PHYSICAL DATA

Dam (overflow):
Type: Gate controled, concrete broad crested weir with stilling basin.
Height: Maximum 75 feet.
Length: 495 feet (does not include width of lock or powerplant).
Lock:
Type: Concrete gravity.
Chamber size (clear dimensions): 110 by 800 feet.
Lift (normal): 26 feet.
Reservoir capacity: Run of the river plant, storage not significant.
Power installation:
Ultimate: 3 units at 12,000 kilowatts; 36,000 kilowatts.
Presently planned: 3 units at 12,000 kilowatts; 36,000 kilowatts.
Nominal head: 22 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Entire project	83	Entire project, March 1959.
Acquisition of reservoir area	97	Land acquisition, June 1957.
Relocations	100	Relocations, November 1956.
Reservoir clearing	100	Reservoir clearing, November 1956.
Construction of dam	100	Dam closure, July 1954.
Construction of lock	99	Lock placed in permanent operation, August 1954.
Powerplant cofferdam and excavation	100	Power on line:
Construction of powerplant substructure	100	1st unit, 12,000 kilowatts, March 1958.
Construction of powerplant superstructure, switchyard, and installation of equipment.	23	2d unit, 12,000 kilowatts, July 1958.
Procurement of turbines, governors, and generators	77	3d unit, 12,000 kilowatts, November 1958.
Procurement of accessory electric and miscellaneous powerplant equipment.	74	
Access roads	100	
Buildings, grounds, and utilities	8	
Permanent operating equipment	38	

JUSTIFICATION

The Tennessee Valley Authority has emphasized its need for additional power, and has requested that all economical hydroelectric power available in the Cumberland River Basin be developed as rapidly as possible. The addition of the Cheatham project to the power system of the Cumberland, which includes the completed Wolf Creek, Center Hill, and Dale Hollow projects, will enhance the dependability of the system's power output. Moreover, the power value of the increased flows from the upstream completed projects would be wasted without the main river power dams.

Fiscal year 1958.—The requested amount of $1,375,000 will be applied to—

Continue construction of the powerhouse superstructure	$560,000
Continue fabrication and installation of turbines, governors, and generators	390,700
Continue fabrication and installation of accessory electrical, miscellaneous powerplant equipment, and construction of switchyard	182,000
Continue construction of buildings, grounds, and utilities	25,000
Complete purchase of permanent operating equipment	13,000
Engineering and design	38,300
Supervision and administration	166,000
Total	1,375,000

With the funds requested for fiscal year 1958, the project can be advanced as scheduled, with the first power unit operating for commercial production in March 1958. The project has been completed for navigation purposes. Construction of the powerhouse substructure has also been completed, and construction of the powerplant superstructure is underway. The funds requested for fiscal year 1958 are needed to carry on the contract for construction of the powerhouse superstructure and installation of powerplant equipment in order to produce power as quickly and economically as possible.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—No change from latest estimate submitted to Congress.

OLD HICKORY DAM

Mr. RABAUT. Next is Old Hickory Dam. We will insert pages 127, 128, and 129 in the record.

(The information referred to is as follows:)

OLD HICKORY LOCK AND DAM, TENNESSEE

(Continuing)

Location.—On the Cumberland River, 216.2 miles above the mouth, in Davidson, Sumner, Wilson, Trousdale, and Smith Counties, Tenn., about 3 miles north of Old Hickory, Tenn., and 23 miles upstream from Nashville, Tenn.

Authorization.—1946 River and Harbor Act.

Benefit-cost ratio.—1.25 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (ultimate installation)	$47,600,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	47,600,000	
Appropriations to June 30, 1956	44,646,000	
Appropriations for fiscal year 1957	2,250,000	
Appropriations to date	46,896,000	98
Appropriations requested for fiscal year 1958	704,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Dam:
Type: Rolled earth fill.
Length: 2,870 feet.

Spillway:
Type: Gate-controlled, concrete ogee weir.
Capacity (maximum pool): 226,000 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Flood control (surcharge) elevation 450–445	125,000
Power (pondage allowance) elevation 445–442	63,000
Minimum pool below elevation 442	357,000
Total	545,000

Power installation:
Ultimate: 4 units at 25,000 kilowatts; 100,000 kilowatts.
Presently planned: 4 units at 25,000 kilowatts; 100,000 kilowatts.
Nominal head: 45 feet.

Lock:
Type: Concrete gravity.
Chamber size (clear dimensions): 84 by 400 feet.
Lift (normal): 60 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Entire project	93	Entire project: June 1958.
Acquisition of reservoir area	96	Land acquisition: June 1958.
Relocations	100	Relocations: December 1956.
Reservoir clearing (includes demolition of existing locks).	92	Reservoir clearing (includes demolition of locks): September 1957.
Dam	99	Dam closure: July 1954.
Lock	99	Lock in permanent operation: September 1956.
Construction of powerplant, switchyard, and installation of equipment.	88	Power on line:
Procurement of turbines, governors, and generators	96	1st unit: 25,000 kilowatts, April 1957.
Procurement of accessory electrical and miscellaneous powerplant equipment.	99	2d unit: 25,000 kilowatts, August 1957.
Operational roads	100	3d unit: 25,000 kilowatts, December 1957.
Channel dredging	66	4th unit: 25,000 kilowatts, April 1958.
Buildings, grounds, and utilities	57	
Permanent operating equipment	68	

JUSTIFICATION

The power demand of the TVA system, into which Old Hickory power will be fed, is rapidly increasing due to the expansion in the area. The Tennessee Valley Authority has emphasized their need for additional power and has requested that all economical hydroelectric power available in the Cumberland River Basin be developed as rapidly as possible. Completion of the Old Hickory project will assist in meeting these power demands. The navigation lock for this project was placed in permanent operation September 22, 1956. On completion of channel dredging now in progress and completion of demolition of existing locks that are no longer required due to impoundment of Old Hickory and Cheatham Reservoirs, there will be a 9-foot navigation channel from Nashville to Carthage, Tenn., that will accommodate modern and efficient floating plant and eliminate 6 small-size obsolete locks and the present limited 6-foot channel.

Operation and Maintenance

Mr. Rabaut. That takes us to "Operation and maintenance." You have $13,972,800 for 36 projects. Insert pages 133 through 139 in the record.

(The information referred to is as follows:)

1. Navigation

(*a*) *Channels and harbors.*—None.

(*b*) *Locks, dams, reservoirs and canals.*—The budget estimate of $11,661,000 provides the minimum amount necessary for annual operational requirements, essential dredging, snagging, and repair and rehabilitation of locks and dams on 9 projects. This estimate includes $527,000 of the $5 million provided in the budget for reduction of the backlog of urgently needed maintenance work. The amount requested recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts required for the day-by-day functioning of the project. Periodic requirement and one-time requirements are indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
ILLINOIS							
Ohio River locks and dams	6,304.5	7,132.9	5,724.0	1,645.0	47.0	7,416.0	Repairs to wickets, lock gates, valves, and beartraps.
Ohio River open channel work	611.1	870.9	780.0	175.0	0	955.0	Dredging and snagging.
KENTUCKY							
Cumberland River	463.3	400.8	419.0	0	0	419.0	
Green, Barren, and Nolin Rivers and Bear Creek.	10.1	134.7	175.0	82.0	0	257.0	Dredging, repair locks and dams 3 and 4.
Kentucky River	284.1	283.3	225.0	131.0	20.0	376.0	Purchase lock gate, repair lock gates and sills-locks 5 and 9.
PENNSYLVANIA							
Allegheny River	275.4	400.2	276.0	80.0	0	356.0	Dredging, repair lock gates and valves.
Monongahela River	1,179.1	1,315.4	1,050.0	390.0	60.0	1,500.0	Dredging, repair lock gates, sills, and valves.
WEST VIRGINIA							
Kanawha River	293.0	311.0	322.0	10.0	0	332.0	Gate repairs—marmet locks.
Tygart River Dam	34.1	40.2	45.0	5.0	0	50.0	Replacement of light standards.

	Obligations (in thousands of dollars)		
	Fiscal year 1956	Fiscal year 1957 (estimate)	Fiscal year 1958 (estimate)
Total, Ohio Basin, locks and dams	$9,454.7	$10,889.4	$11,661.0

2. Flood control

(*a*) *Reservoirs.*—The budget estimate of $891,500 for the operation and maintenance of 16 flood-control reservoirs in the basin, provides the minimum amount necessary for annual operational requirements and essential rehabilitation work, including $66,900 of the $5 million provided in the budget for reduction of the backlog of urgently needed maintenance work. The increase over prior year requirements is necessary for effective operation of the project works. The amount requested for maintenance recurring annually is the operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required by the day-by-day functioning of the project. Periodic requirements are indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
INDIANA							
Cagles Mill Reservoir	26.9	26.0	30.6	0	0	30.6	
KENTUCKY							
Dewey Reservoir	41.6	37.4	42.4	0	0	42.4	
OHIO							
Berlin Reservoir	34.0	33.1	32.0	10.2	0	42.2	Repairs to embankment of dam and crest gates.
Tom Jenkins Reservoir	19.0	14.0	19.8	0	0	19.8	
Delaware Reservoir	27.1	24.4	27.3	5.0	0	32.3	Painting crest gates and service bridge.
Mosquito Creek Reservoir	28.8	24.2	22.0	9.0	0	31.0	Replacing sluicegate seals and repairs of riprap protection.
Muskingum River Reservoirs	220.8	200.1	225.0	35.2	0	260.2	Replacement obsolete radio equipment.
West Fork of Mill Creek Reservoir.	25.7	27.0	32.5	0	0	32.5	
PENNSYLVANIA							
Conemaugh River Reservoir	33.5	35.2	35.0	10.0	0	45.0	Replacement of operating equipment.
Crooked Creek Reservoir	26.5	24.1	27.0	5.0	0	32.0	Repair and replacement of facilities.
East Branch Clarion River Reservoir.	27.7	28.0	31.0	6.0	0	37.0	Repair drainage ditches and other facilities.
Loyalhanna Reservoir	25.8	24.3	29.0	11.0	0	40.0	Painting bridge and gates; repair of facilities.
Mahoning Creek Reservoir	25.5	26.1	28.0	4.0	0	32.0	Repairs.
Tionesta Reservoir	43.4	40.4	40.0	4.5	0	44.5	Repair of riprap in stilling basin area.
Youghiogheny River Reservoir	39.8	40.1	44.0	40.0	0	84.0	Repair of tunnel concrete and replacement of facilities.
WEST VIRGINIA							
Bluestone Reservoir	71.6	69.2	73.0	13.0	0	86.0	Painting of penstocks.

	Obligations (in thousands of dollars)		
	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated)
Total, Ohio Basin, reservoirs	717.7	673.6	891.5

(*b*) *Other (including channel improvement projects, miscellaneous items and inspections)*.—The budget estimate of $62,300 provides for the minimum annual and periodic maintenance requirements of 6 local flood-protection projects and the inspection of 50 completed works within the basin during the budget year. The increase over the prior year is essential to restore the projects to effective functioning for flood control.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
KENTUCKY							
Middleboro	6.4	6.5	5.0			5.0	Channel clearing.
OHIO							
Massillon	8.8	4.0	1.0	6.0		7.0	Channel clearing and levee maintenance.
Newark	.3	.4	.4	3.0		3.4	Removal of debris from bridge piers and channel clearing.
PENNSYLVANIA							
Johnstown	5.0	5.5	2.0	8.0		10.0	Channel clearing.
Punxsutawney	1.7	8.0	2.9	7.0		9.9	Do.
WEST VIRGINIA							
Elkins	2.2	2.4	1.0			1.0	Condition survey.
Inspection of completed works	19.9	20.7	26.0			26.0	
Total, flood control, other	44.3	47.5				62.3	
Total, flood control	762.0	721.1				953.8	

3. Multiple-purpose projects including power

The budget estimate of $1,358,000 for the operation and maintenance of 5 multiple-purpose projects provides the minimum amount necessary for annual operational requirements. The completion and placing in maintenance status additional features on 2 of the projects during the fiscal year 1957 accounts for $152,400 of the increase over prior-year requirements. The amount requested for maintenance recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts required for the day-by-day functioning of the projects.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
KENTUCKY							
Wolf Creek Reservoir	351.0	332.3	343.0	0	0	343.0	
TENNESSEE							
Center Hill Reservoir	253.5	264.1	254.0	0	0	254.0	
Cheatham Dam	97.8	132.0	201.0	0	0	201.0	
Dale Hollow Reservoir	253.2	248.9	254.0	0	0	254.0	
Old Hickory Dam	93.9	222.6	306.0	0	0	306.0	
Total multiple-purpose projects	1,094.4	1,199.9				1,358.0	
Total, Ohio Basin	11,266.1	12,810.4				13,972.8	

Mr. RABAUT. Over half of the entire amount requested for this basin is for one project which really is a group of subprojects listed as Ohio River locks and dams. This is estimated to cost $7,416,000 in 1958, which is $1,111,500 more than was spent in 1956. Why should this go up over $1 million in 2 years?

Colonel SMYSER. Actually, Mr. Chairman, we have less work units in that money than we had last year.

Mr. RABAUT. Less what?

Colonel SMYSER. Less work units. We can get less man-days of work. The entire increase is caused by the requirement of paying for the 6½ percent of the civil service retirement fund in fiscal year 1958 as well as wage-board increases. We actually have a lesser amount of money to pay people in terms of the number of hours they work.

Mr. RABAUT. Are there any unusual items or special trouble spots that should be called to the committee's attention in connection with the operation and maintenance of the other projects?

Colonel SMYSER. No, sir; I am not aware of any.

Mr. RABAUT. Any questions on operation and maintenance?

Mr. TABER. It runs above last year all the way, does it not?

What is the status of your funds now for 1957?

Colonel SMYSER. By the end of the year, sir, we will be completely out of funds. Ohio River Basin has 53 percent of all the navigation dams being operated throughout the country and 41 percent of the locks. We have a very large staff of employees.

NUMBER OF EMPOYEES

Mr. BOLAND. How many employees do you have?

Colonel SMYSER. I can supply the total. I do not have the figure now, sir.

Mr. BOLAND. Would you supply the total number of employees that you have on the payroll as of the first of the month?

Colonel SMYSER. I will do it, sir.

Mr. BOLAND. And how many were authorized as of the first of the month, and the number you are requesting funds for in fiscal 1958.

Colonel SMYSER. I will be glad to do that, sir.

(The information requested is as follows:)

The permanent employees engaged in operation and maintenance work in the Ohio River Basin as of March 31, 1957, totaled 1,737. The permanent force during the fiscal year 1958 is estimated to total 1,770. The increase is to provide operating forces for the projects being placed in operation such as the Old Hickory and Cheatham projects. The seasonal employees engaged in repair work during fiscal year 1957 are estimated to represent 160 man-years of work while the fiscal year 1958 is estimated to represent about 155 man-years. The authorized strength on March 31, 1957, totaled 1,943.

Mr. EVINS. Most of the operation and maintenance increase is due to the civil service retirement fund, a mandatory provision.

Colonel SMYSER. Yes, and the wage board locality surveys which we do not control. We have had fewer employees consistently for the last 2 or 3 years. We have been coming down on employees.

TENNESSEE VALLEY

General Investigations

Mr. Rabaut. The basin we will take up is the Tennessee Valley. The first budget item is "General investigations." The request is for $27,100 for 4 projects. Insert page 3 in the record.

(The information referred to is as follows:)

1. Examinations and surveys

(a) Navigation studies.—None.

(b) Flood control studies.—The amount of $27,100 is requested for prosecution of 4 studies during fiscal year 1958. This amount will permit completion of 3 reports and progress on 1 other. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Alabama: Pinhook Creek	$37,300	$10,300	$10,000	$17,000
Kentucky: Clarks River	32,000	15,900	16,100	0
Tennessee:				
Elk River	500	0	500	0
Soddy Creek	1,200	700	500	0
Total	71,000	26,900	27,100	17,000
Grand total	71,000	26,900	27,100	17,000

Advance Engineering and Design

Mr. Rabaut. Next is advance engineering and design. There is $30,000 requested for one project. The one project in this category is Paint Rock River, Ala.

Pages 5 and 6 will be inserted in the record.

(The information referred to is as follows:)

Paint Rock River, Ala.

(Continuation of planning)

Location and description.—The project is located on Paint Rock River, a tributary of the Tennessee River, in Jackson, Madison, and Marshall Counties, in northern Alabama. The project provides for improvement of Paint Rock River for flood control and related purposes by means of main stem channel clearance by the Federal Government, combined with the constructoin of an integrated upstream drainage system by local interests.

Authorization.—1954 Flood Control Act.

Benefit-cost ratio.—2.32 to 1.

Summarized financial data

Estimated Federal cost	$1,140,000
Estimated non-Federal cost	1,950,000
Cash contributions	0
Other costs	1,950,000
Total estimated project cost	3,090,000
Preconstruction planning estimate	80,000
Appropriations to June 30, 1957	50,000
Planning allocation for fiscal year 1958	30,000
Balance to complete preconstruction planning after fiscal year 1958	0

JUSTIFICATION

The flood problem for the area is characterized by the frequent flooding and heavy crop losses sustained and due to these conditions proper use of land is seriously hampered. These factors and the resulting hazard to farming have depressed property values and retarded economic development. Minor crop damages begin when water exceeds a 12-foot stage at the central reference gage. In a period of 20 years, January 1936–March 1955, for which records are available, there have been 148 rises exceeded this stage during 20-year period referred to above. This project will permit drainage and related improvements on approximately 27,000 acres of land in a predominately agricultural basin of some 485 square miles.

Non-Federal costs.—The investment required of local interests in construction of the authorized project is estimated at $1,950,000, broken down as follows:

Construction, local drainage system	$1,687,000
Lands and damages	141,000
Relocations, including rights-of-way	122,000
Total	1,950,000

Local interests are required to maintain and operate the project upon completion. It is estimated that the average annual expenditure for maintenance and operation will total $96,200.

Status of local cooperation.—Prior to authorization of the project, the plan of improvement was submitted to and approved by local interests, at which time the ability and willingness of local residents to participate in the project were expressed. Formal and final assurances of compliance have not been furnished pending more detailed study now underway, and establishment of an appropriate organization to assume full local responsibility. Meeting was held with responsible Alabama officials in December 1956 preliminary to steps required in connection with establishment of an organization duly authorized to assume full local responsibility.

Comparison of Federal cost estimates.—The current Federal estimate of $1,140,000 reflects an increase of $60,000 over the latest estimate submitted to the Congress of $1,080,000. The increase is based on price level rise.

Mr. RABAUT. The justifications state "This project will permit drainage and related improvements on approximately 27,000 acres of land."

This sounds like a reclamation project. Will the local people bear the full share that is attributable to reclamation?

Colonel SMYSER. The local contribution is estimated at $1,950,000 as opposed to a Federal cost of $1,140,000.

Mr. RABAUT. The justification indicates that assurances of local cooperation have not been received and that no local organization has been set up which could assume local responsibility. Does that situation still exist today?

Colonel SMYSER. The local people have organized a steering committee which is going to the various governmental units in the area, in order to form a single overriding authority within the local law. So far they have not been able to complete that organization.

Mr. RABAUT. We will do no physical work until that is completely set up?

Colonel SMYSER. We will do no construction, sir, until such time as that organization is set up.

CONSTRUCTION

LAKE CITY

Mr. RABAUT. If there are no other questions we will proceed to "Construction." In that category you have one project, Lake City, Tenn., and the request is for $340,000. We will insert pages 8, 9, and 10 in the record.

(The information referred to is as follows:)

LAKE CITY (COAL CREEK), TENN.

(New)

Location.—The project is located on Coal Creek, a tributary of the Clinch River, at and below Lake City, Anderson County, Tenn., approximately 20 miles northwest of Knoxville, Tenn.

Authorization.—Flood Control Act of 1954.

Benefit-cost ratio.—1.51 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$853,000	
Estimated non-Federal cost	126,000	
Cash contributions	0	
Other costs	126,000	
Total estimated project cost	979,000	
Appropriations to June 30, 1956	None	
Appropriations for fiscal year 1957	50,000	
Appropriations to date	50,000	6
Appropriation requested for fiscal year 1958	340,000	46
Balance to complete after fiscal year 1958	463,000	

PHYSICAL DATA

Channel improvement:
- Main channel:
  - Bottom width: 100 feet.
  - Length: 2.5 miles.
- Cutoff channel:
  - Bottom width: 20 feet.
  - Length: 0.1 mile.

Status (January 1, 1957): Channels, new start.
Completion schedule: December 31, 1958.

JUSTIFICATION

The seriousness of the flood problem at Lake City, Tenn., is characterized by the frequent flooding and heavy losses sustained. Damages resulting from a flood equal to the flood of record (1929) under the present stage of development would amount to $817,000, while those resulting from the 1944 flood would be $254,000. Major floods have inundated the railroad yards, the main business district, and a large portion of the residential section of the town. The flood history covers the 35-year period from 1922 to date, and indicates the occurrence of 26 damaging floods which caused losses estimated at approximately $1,446,000 under present conditions and price levels. The proposed channel improvement will result in substantial benefits accruing from the prevention of such heavy losses, thus enhancing the economic stability of the community, and will contribute to the health and safety of the inhabitants.

Fiscal year 1958.—The requested amount of $340,000 will be applied—

Initiate channel improvement	$300,000
Engineering and design	5,000
Supervision and administration	35,000
Total	340,000

Non-Federal costs.—The initial investment required of local interests in construction of the authorized project is estimated at $126,000, broken down as follows:

Lands and damages	$49,500
Relocation of bridges and sewers	76,500
Total	126,000

Local interests are required to maintain and operate the project upon completion. It is estimated that the average annual expenditure for maintenance and operation will total $6,000.

Status of local cooperation.—The plan of improvement was submitted to and discussed with the City Council of Lake City prior to final compilation and processing of the authorization document, at which time approval of the proposed works and assurances of compliance with the conditions of local participation were expressed. In anticipation of a favorable project, local interests had legislation passed by the General Assembly of the State of Tennessee which empowers the Board of Commissioners of Lake City to levy taxes on all taxable property for purposes of financing the city's share of the project costs. Acquisition has not been undertaken pending more detailed studies of actual land requirements; however, no unusual difficulties in connection with securing the necessary rights are anticipated. An informal meeting was held with the City Council of Lake City on December 18, 1956. Those members of the council present, which constituted a majority of the council, verbally expressed approval of the proposed works and advised that a resolution providing the necessary assurances of compliance with the conditions of local participation would be introduced at the next regularly scheduled meeting of the council on January 14, 1957.

Comparison of Federal cost estimates.—The current Federal cost estimate of $853,000 is an increase of $43,000 above the latest estimate ($810,000) submitted to Congress. The increase is due to higher price levels.

Mr. RABAUT. The justifications say that State legislation has been passed to empower Lake City to levy taxes to finance their share of this project. Have such taxes been levied?

Colonel SMYSER. They have not been levied yet. They have furnished us with the formal agreement on the Lake City project, and we have accepted assurances that the funds will be forthcoming when required.

Mr. RABAUT. Are we doing any construction?

Colonel SMYSER. Not yet, sir. This is the first construction money.

Mr. RABAUT. The request for 1958 is for construction?

Colonel SMYSER. Yes, sir.

Mr. RABAUT. Will these taxes be lieved before you start construction?

Colonel SMYSER. We will not start construction until taxes have been levied, real estate procured and given to us.

Mr. RABAUT. Fine. That is according to the idea of Congress.

MAINTENANCE AND OPERATION

If there are no questions from other members we will move on to "Maintenance and operation," page 12. Insert page 12 in the record.

(The information referred to is as follows:)

1. Navigation

(*a*) *Channels and harbors.*—None.

(*b*) Locks, dams, reservoirs, and canals—The budget estimate of $869,500 provides the minimum amount necessary for annual operational requirements, structure repairs, and rehabilitation work. The estimate includes $8,500 of the $5 million provided in the budget for reduction of the backlog of urgently needed maintenance work. The increase over the prior year is essential to insure effective functioning of the project works for navigation. The amount requested recurring annually is the necessary operation and ordinary maintenance of the project facilities; labor, supplies, materials and parts required for the day-by-day functioning of the project. Periodic or onetime requirement is indicated under remarks below.

OBLIGATIONS

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		Onetime repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
Tennessee: Tennessee River.....	719.4	761.6	748.0	118.0	3.5	869.5	Repair of pile dolphins, tow haulage units; and various other facilities.

2. Flood control

None.

3. Multiple purpose projects including power

None.

Mr. RABAUT. There is just one project in this category, the Tennessee River, for which $869,500 is requested.

Why is the cost of this project going up? It cost $719,400 in 1956, $761,600 in 1957, and you are requesting now $869,500 in 1958.

Colonel SMYSER. The same reason as the others, sir. We must contribute six and a half percent to the retirement fund and we have had wage increases in the localities.

Mr. RABAUT. That accounts for the entire increase?

Colonel SMYSER. Accounts approximately, for the entire increase.

Mr. RABAUT. You might detail it for this one project and supply it for the record.

Colonel SMYSER. We will supply that.

(The information requested is as follows:)

Increase between 1956 and 1957 consists of $25,200 due to wage board increase and $17,000 to provide for essential rehabilitation work in 1957.

The increase between 1957 and that estimated for 1958 consists of $32,300 due to wage board increase, $44,000 to cover the required 6½ percent contribution to the retirement fund, $19,000 for 4 additional employees for increased operations at Wilson locks and lock 1 on the Tennessee River during construction of a new lock by TVA and an increase of $12,600 in rehabilitation work.

Mr. EVINS. I find this interesting, and worthy of comment for the record. The Tennessee Basin, which we are now considering, has a little project in Alabama and 1 in Kentucky and 2 studies in Tennessee. It is referred to as the Tennessee Basin but it is spread out as I have

indicated. If an analysis is made you will find it has the smallest appropriation of any basin in the entire budget.

The Lake City project referred to has had a great deal of flood damage in the vicinity of Congressman Baker. The project is greatly needed.

Mr. RABAUT. You know, Tennessee has extended itself into quite a few areas, not only that the State itself has extended but the influence of the State.

Mr. EVINS. The smallness of the Corps of Engineers program in this basin should be pointed out.

NEW ENGLAND DRAINAGE AREA

GENERAL INVESTIGATIONS

Mr. RABAUT. We will take up the budgeted projects in New England next.

For general investigations there is $419,600 for 29 projects. We will insert pages 3 through 6 in the record.

(The information referred to is as follows:)

GENERAL INVESTIGATIONS, FISCAL YEAR 1958

1. Examinations and surveys

(*a*) *Navigation studies.*—The amount of $53,800 is requested for prosecution of 15 studies during fiscal year 1958. This amount will permit completion of 12 reports and progress on 3 others. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Connecticut:				
Five Mile River	$7,500	0	$7,500	0
Husatonic River	2,000	0	2,000	0
New Haven Harbor	9,500	$2,500	7,000	0
Norwalk Harbor	8,000	3,000	5,000	0
Maine:				
Mill Cove, Portland, Maine	6,500	2,500	4,000	0
York Harbor	5,000	2,000	3,000	0
Massachusetts:				
Marblehead Harbor	8,000	0	2,000	$6,000
Nantucket Harbor	1,500	0	1,500	0
Plymouth Harbor	9,000	1,500	7,500	0
Saugus River	2,500	0	2,500	0
Sesuit Harbor	12,500	0	2,500	10,000
Rhode Island:				
Bristol Harbor	2,500	0	2,500	0
Dutch Island Harbor	2,500	700	1,800	0
Pawtuxet Cove	8,000	0	1,500	6,500
Providence River and Harbor	3,500	0	3,500	0
Total	88,500	12,200	53,800	22,500

(*b*) *Flood-control studies.*—The amount of $339,000 is requested for prosecution of 11 studies during fiscal year 1958. This amount will permit completion of 6 reports and progress on 5 others. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Connecticut:				
Coastal rivers, Connecticut, Rhode Island, Massachusetts, New Hampshire, Maine	$190,000	$10,000	$60,000	$120,000
Connecticut River, Conn., Mass., Vt., N. H.	120,000	70,000	50,000	0
Thames River, Conn., and Mass.	60,000	33,000	27,000	0
Maine: Androscoggin River, Maine and N. H.	115,000	14,000	20,000	81,000
Massachusetts:				
Housatonic River, Mass. and Conn.	106,000	82,000	24,000	0
Merrimack River, Mass. and N. H.	50,000	11,000	14,000	25,000
New Jersey: Rondout Creek and Wallkill River, N. J. and N. Y.	150,000	70,000	80,000	0
New York:				
Esopus Creek	30,000	6,000	24,000	0
Mohawk River and Schoharie Creek	40,000	0	20,000	20,000
Westchester County streams	50,000	0	10,000	40,000
Rhode Island: Blackstone River, R. I. and Mass.	40,000	30,000	10,000	0
Total	951,000	326,000	339,000	286,000

(*c*) *Beach erosion cooperative studies.*—The amount of $26,800 is requested for prosecution of 3 studies during fiscal year 1958. This amount will permit completion of 2 reports and progress on 1 other. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Massachusetts:				
Cade Cod-Provincetown	$15,000	0	$15,000	0
Nantucket	5,000	0	5,000	0
New York: Nassau County	20,000	0	6,800	$13,200
Total	40,000	0	26,800	13,200
Grand total	1,079,500	$338,200	419,600	321,700

FLOOD CONTROL STUDIES

Mr. RABAUT. Flood control studies make up $339,000, or 80 percent, of the total. This is a continuation of emphasis that has been given here since the floods of 2 years ago. Have any new projects yet been recommended as a result of these studies?

Colonel PENNEY. Yes, sir, Mr. Chairman. Projects have been recommended to Congress.

I am representing the New England Division. General Fleming has been reassigned from the New England division.

Colonel Renshaw, the division engineer of the North Atlantic division, has a few projects in this basin, sir.

Mr. RABAUT. All right. Tell us about these new projects.

Colonel PENNY. Yes, sir. The Littleville Reservoir has been recommended to Congress. It is in the Connecticut River Basin. There has been recommended the Mad River Dam, which is above Winsted, Conn., in the same basin; two flood-control dams in the Naugatuck Basin have been recommended to Congress, and a report on the Black-

stone Basin which would recommend flood protection in the area below Woonsocket has just been submitted by the New England division to the Chief of Engineers Office.

Studies are proceeding. Those are interim reports to attempt to obtain immediate solutions to urgent problems, sir.

REVISED ESTIMATE OF COST TO COMPLETE STUDIES

Mr. RABAUT. I see from the justifications that the balance after 1958 is $321,000 to complete all of these 29 projects. Is that correct?

Colonel PENNEY. No, it is not, sir. I must advise the committee at this point about a difference from the information reflected on the justification sheet, and that is an increase in the total estimated cost of these flood-control studies from the total estimated cost shown on the justification sheets.

Those are the studies for five—Connecticut, Thames, Housatonic, Merrimack, and Blackstone Rivers. The reason for that, sir, is that these original costs were hasty estimates made right after the disastrous August 1955 flood, and we have found, in getting into these studies, that they were just too low.

Mr. BOLAND. What is the total cost for those now?

Colonel PENNEY. As shown on the budget justification sheets, sir, it was $900,000 approximately.

Mr. BOLAND. No, that includes projects in New York, too.

Colonel PENNY. But for the flood-control studies it was about $900,000 in the New England States.

Mr. BOLAND. Where is that shown in the justifications?

Colonel PENNEY. That is not shown, sir. Actually the amount on the justification sheet is $681,000, a portion of that $951,000. However, there are authorized studies in rivers in Maine and New Hampshire which are not scheduled in this budget but to come later, so the original total estimated cost of the New England Northeast flood studies was about $900,000. The increase will be about a third, sir.

Mr. RABAUT. You have $951,000 at the bottom of page 5, and you quoted what figure?

Colonel PENNEY. Mr. Rabaut, of the $951,000 only $681,000 is in New England. There is some above there in New Jersey and New York.

That $681,000, Mr. Chairman, is the portion of the original estimated cost of the Northeast flood studies in New England of $900,000.

Mr. RABAUT. And it includes what items? Give it to us by States.

Colonel PENNEY. For Connecticut, the coastal rivers in Connecticut, Rhode Island, Massachusetts, New Hampshire and Maine; the Connecticut River Basin; the Thames River Basin, Conn. and Mass.; the Androscoggin River, Maine and N. H.; the Housatonic River, Mass. and Conn.; and the Merrimack River, Mass. and N. H.; and the Blackstone River, R. I. and Mass.

Mr. RABAUT. And the difference between that and the New York project ran this figure to $951,000?

Colonel PENNEY. That is correct.

Mr. RABAUT. But that is no longer the correct figure?

Colonel PENNEY. It is not, sir. That has been increased to the amount I mentioned.

Mr. RABAUT. What is the total increase?

Colonel PENNEY. The original estimated cost for these studies made right after the flood, the studies in New England, was $900,000. We estimate the increase will be $355,000, a total of $1,255,000, sir.

Mr. RABAUT. What is the relation of $1,255,000 to this quoted figure of $951,000?

Colonel PENNEY. $951,000 includes $270,000 that is not in New England. It excludes about $225,000 on studies that are not yet budgeted. They are not listed on this budget submission.

ADVANCE ENGINEERING AND DESIGN

WEST HILL RESERVOIR

Mr. RABAUT. All right. Now we come to "Advance engineering and design." There is $150,000 for two projects. First is the West Hill Reservoir in Massachusetts.

We will insert page 8 in the record.

(The information referred to is as follows:)

WEST HILL RESERVOIR, MASS.

(Continuation of planning)

Location and description.—The project is located on the West River in the town of Uxbridge, Mass., just below the Northbridge-Uxbridge town line. The plan of improvement provides for a rolled-fill earth dam and a reservoir with storage capacity of 11,900 acre-feet, equivalent to 8 inches of runoff from the drainage area.

Authorization.—1944 Flood Control Act.

Benefit-cost ratio.—1.2 to 1.

Summarized financial data

Estimated Federal cost	$3,360,000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	3,360,000
Preconstruction planning estimate	233,000
Appropriations to June 30, 1957	183,000
Planning allocation for fiscal year 1958	50,000
Balance to complete preconstruction planning after fiscal year 1958	0

JUSTIFICATION

The West Hill Reservoir is the only authorized reservoir project in the Blackstone River Basin. Construction of this project would provide reductions in flood stages at downstream damage centers along the West River in Massachusetts and the Blackstone River in Massachusetts and Rhode Island. It would augment the protection to be provided by the Woonsocket local protection project, presently under construction, and provide a degree of protection for that portion of the city which is outside the area of the local protection project. The West Hill Reservoir would have prevented approximately $12,215,000 in damages had it been in operation during the record flood of August 1955.

Non-Federal Costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $3,360,000 is an increase of $440,000 over the latest estimate ($2,920,000) submitted to Congress. $120,000 of this increase is due to higher price levels. New real-estate developments in the area since the last field investigation increased the cost $22,000. Latest surveys indicate that the spillway crest will have to be raised in order to provide adequate storage, necessitating relocation or protection of utilities at an estimated added cost of $302,000. Minor adjustments in other feature costs resulted in a reduction of $4,000.

Mr. RABAUT. The benefit-cost ratio is only 1.2 to 1, but I notice from the justifications that this project would have prevented over three and a half times the entire cost of the project just in the one flood of August 1955. Why, in view of that, is the benefit-cost ratio so low?

Colonel PENNEY. Sir, that is what that project would have done in that one flood which was admittedly a rare occurrence. The average annual benefits over the range of the floods that might occur show that the project is justified in excess of the cost, sir.

Mr. RABAUT. We were told last year that the State had not concurred in this project. What is the current situation?

Colonel PENNEY. They have concurred, sir.

They agree with the project and strongly are in favor of it, sir.

Mr. RABAUT. Is there any local cooperation?

Colonel PENNEY. No, there is not, sir. This is a flood-control reservoir project.

WESTVILLE RESERVOIR

Mr. RABAUT. Next is Westville Reservoir, Mass.

Insert page 10 for the record.

(The information referred to is as follows:)

WESTVILLE RESERVOIR, MASS.

(Resumption of planning)

Location and description.—The project is located on the Quinebaug River, a tributary of the Thames River, in the town of Sturbridge, Mass., 2 miles west of Southbridge and 59 miles above its confluence with the Shetucket River. The plan of improvement provides for a concrete dam, and a reservoir with a storage capacity of 12,000 acre-feet.

Authorization.—1941 Flood Control Act.

Benefit-cost ratio.—1.2 to 1.

Summarized financial data

Estimated Federal cost	$6,550,000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	6,550,000
Preconstruction planning estimate	320,000
Appropriation to June 30, 1957	79,000
Planning allocation for fiscal year 1958	100,000
Balance to complete preconstruction planning after fiscal year 1958	141,000

JUSTIFICATION

The Westville project is a unit of the authorized plan for flood control in the Thames River Basin. The flood of August 1955 caused damages amounting to $61,680,000 in this basin. Had the Westville Dam been in operation at that time, damages amounting to $5,500,000 would have been prevented on the Quinebaug and Shetucket Rivers.

In combination with the East Brimfield project, the Westville project will provide substantial protection for Southbridge, Mass., and a large measure of protection for other downstream communities including Putnam, Danielson, Jewett City, and Norwich, Conn., industrial and business centers on the Quinebaug and Thames Rivers.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal estimate of $6,550,000 reflects an increase of $220,000 over the latest estimate ($6,330,000) submitted

to Congress. A $245,000 increase based on the price rise was partially compensated by a $25,000 reduction in the estimate for supervision and administration based on a reanalysis of requirements.

Mr. RABAUT. Last year it was testified that the construction costs for this project would be reduced if East Brimfield were build first. Is it still planned not to start construction of Westville before East Brimfield is built?

Colonel PENNEY. Yes, sir; that is the plan, that it will follow right after East Brimfield, sir, after East Brimfield is well under construction.

CONSTRUCTION

Mr. RABAUT. Next is "Construction," $28,215,000 for 20 projects.

BOSTON HARBOR

Boston Harbor, Mass. Insert pages 12 through 15 in the record. (The information referred to is as follows:)

BOSTON, HARBOR, MASS. (40-FOOT ANCHORAGE AND 35-FOOT AREA)

(Continuing)

Location.—Boston Harbor, located on the westerly side of Massachusetts Bay, is a well-protected harbor, the inner portion of which has been extensively developed for water transportation and covers an area of approximately 47 square miles.

Authorization.—1946 River and Harbor Act.

Benefit-cost ratio.—Not evaluated.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost	$5,000,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	5,000,000	
Appropriations to June 30, 1956	0	0
Appropriations for fiscal year 1957	1,000,000	20
Appropriations to date	1,000,000	20
Appropriations requested for fiscal year 1958	1,000,000	40
Balance to complete after fiscal year 1958	3,000,000	

PHYSICAL DATA

Channels: Extension of the President Roads anchorage by dredging 700 feet to the north and 500 feet to the west at a depth of 40 feet at mean low water and dredging the area lying west of the anchorage, adjacent to the 35-foot channel, to a depth of 35 feet at mean low water.

Status (January 1, 1957): Dredging of anchorage in progress, about 5 percent complete.

Completion schedule: January 1960.

JUSTIFICATION

Boston Harbor is the largest seaport in New England, and one of the most important on the Atlantic seaboard. It is a primary naval base as well as the principal distributing point for the commerce of Massachusetts, New Hampshire, and Vermont, and affords the shortest route between Europe and the interior of

the United States and Canada. It serves one of the largest industrial areas in the country, producing machinery and textile and leather goods, and is the gateway for the receipt of raw materials for these industries. The port is also the center of the largest deep-sea fishing industry in the United States. The commerce in 1955 amounted to over 19 million tons, of which 72 percent was in petroleum and petroleum products, and about 10 percent in bituminous coal and lignite.

During 1955 there were 885 vessel trips made into the harbor by vessels having a draft of 29 feet or more. Due to the inadequacy of the present anchorage area, large vessels have been obliged to maneuver for a considerable time seeking anchorage, often anchoring at the edge of the channel, or have frequently been forced to anchor outside the harbor limits. The shoal area lying westerly of the President Roads anchorage is a serious hazard with an east wind and floodtide, and ships occasionally have gone aground or struck bottom, under these conditions, when entering or leaving the anchorage.

The proposed increase in size of the existing 40-foot anchorage would permit both naval and commercial vessels to be anchored more easily and without slow, cautious, and expensive maneuvering to avoid risk of collision. The need for additional anchorage is intensified by the increasing number of deep-draft berths included in the $35 million port-development program by the Commonwealth of Massachusetts.

Fiscal year 1958.—Continue dredging of the 40-foot anchorage under a continuing contract. The $1 million requested for fiscal year 1958 will permit completion of the improvement by fiscal year 1960.

COMPLETED MODIFICATIONS—BOSTON HARBOR

There are 11 modifications authorized between 1825 and 1940 which have been completed at a total cost of $15,640,000. These modifications provide for the construction of seawalls for the preservation of the islands in the harbor, and the dredging of various channels and anchorages within the harbor, including the 40-foot main ship channel, the existing 40-foot President Roads anchorage and surrounding areas, the 40-foot approach channel to the South Boston Naval Drydock, the 35-foot channel adjacent to the 40-foot main ship channel, the 30-foot channel from the sea to President Roads, the 27-foot "narrows" channel, the 15-foot "Nubble" channel, the 30-foot channel in Chelsea River, the 30-foot "Reserved" channel, and the 23-foot Fort Point Channel.

REMAINING AUTHORIZED MODIFICATIONS—BOSTON HARBOR

The uncompleted work consists of the completion of the 40-foot main ship channel to project width for a distance of about 4,000 feet along the east side of the upstream end of the project as authorized by the River and Harbor Act of March 2, 1945 (H. Doc. 733, 79th Cong., 2d sess.). Federal costs to date have amounted to $742,000 with $319,000 of work remaining to be completed.

Non-Federal costs.—There are no costs to local interests for compliance with requirements of local cooperation for this modification, authorized by the 1946 River and Harbor Act.

The River and Harbor Act of August 30, 1935, required that local interests furnish assurances satisfactory to the Secretary of the Army that they would provide suitable 40-foot approach channels and berths at a sufficient number of terminals for the proper utilization of the 40-foot channel when it was completed. To meet this requirement, the Commonwealth of Massachusetts has dredged approach channels to a depth of 40 feet from the Boston and Albany piers in East Boston and from Commonwealth Pier No. 5 in South Boston, to the 40-foot main ship channel. To date, the Commonwealth of Massachusetts has spent a total of approximately $28 million on Boston Harbor improvements. Included in this sum is $3,169,651 for construction of the drydock at South Boston (now the property of the United States Navy); $4,014,790 for Commonwealth Pier No. 5, South Boston; $1,199,703 for Commonwealth Pier No. 1, East Boston; Hoosac Pier No. 1, completed in 1950 at a cost of approximately $5 million; Mystic Pier No. 1, completed in 1952 at a cost of $5,606,800; and over $4 million has been spent on the construction of a new pier in East Boston on the site of Commonwealth Pier No. 1 and Boston and Albany Railroad Pier No. 2. The balance was spent for dredging channels, anchorage areas, and filling flats in Boston Harbor and waters tributary thereto.

Status of local cooperation.—Assurances to hold and save the United States free from all claims for damages due to the construction of the project were furnished by the Commonwealth of Massachusetts on September 17, 1956.

Comparison of Federal cost estimates.—The current Federal cost estimate of $5 million is an increase of $1,875,000 over the latest estimate ($3,125,000) submitted to Congress. The increase is based on bid prices received for the work, which was initiated in November 1956.

Mr. RABAUT. This project was put in by the Senate last year. If this had not been done last year would the Corps of Engineers likely have recommended that it be included in the 1958 budget?

Colonel PENNEY. We certainly would have given it very careful consideration, sir, because it is a very worthy project.

Mr. TABER. What is the status of the million dollars given you for this year?

Colonel PENNEY. Essentially all of that has been obligated, sir. There will be a zero unobligated balance at the end of the year. The work is underway.

Mr. TABER. What do you propose to do there?

Colonel PENNEY. Sir, that is dredging in that square area to increase the size of an anchorage that is badly required by the increasing traffic of large vessels. This port is the largest seaport in New England, a primary naval base, the center of the largest deep-sea fishing industry in the United States, and commerce in 1955 was 19 million tons.

Mr. RABAUT. Since no benefit-cost ratio has been calculated, I assume this is justified on the basis of removing a hazard to navigation. Have there been any serious accidents in Boston Harbor in recent years due to the lack of a proper anchorage?

Colonel PENNEY. Ships occasionally have gone aground or struck bottom in this area, sir. It is a very serious hazard to these large ships.

Mr. RABAUT. You mean that is the necessity for this project?

Colonel PENNEY. Yes, sir.

Mr. RABAUT. As I recall we appropriated funds to clear up the whole of Boston Harbor some years ago. We cleaned out all those old ships that were in there and other obstructions. Were you there at that time?

Colonel PENNEY. I was not, sir.

Mr. RABAUT. You know the history of it?

Colonel PENNEY. Boston Harbor has been worked on considerably as the principal seaport in the Northeast. This is the provision under a modification of the authorized project for extension of an existing anchorage which has become inadequate.

INCREASE IN ESTIMATED COST

Mr. RABAUT. There has been a substantial increase in the estimated cost of this project since it was last submitted to Congress, from $3,125,000 to $5 million. What is the reason for that increase?

Colonel PENNEY. Sir, this increase is based on bid prices received for the work which was initiated in November.

Mr. RABAUT. So they were way off in their estimates, then?

Colonel PENNEY. It developed, sir, that the estimates were low in this case.

Mr. RABAUT. Were there new items considered in the estimates which were not originally anticipated?

Colonel PENNEY. No, sir; it is the same work, sir.

Mr. RABAUT. How long ago were the estimates made up?

Colonel PENNEY. Estimates for the contract were made in about September, at the time it was put out for bids.

Mr. RABAUT. The estimate was low by just about 60 percent.

Colonel PENNEY. As it turned out this was very high, sir.

Mr. RABAUT. The estimates were very low. Take it that way.

Colonel PENNEY. That is how it should be put. We are not very proud of the estimate in this case.

Mr. RABAUT. How many bids did you have on it?

Colonel PENNEY. Four, sir.

Mr. BOLAND. Who were the companies?

Colonel PENNEY. I have the name of only the low bidder, sir, and that was the Great Lakes Dredge & Dock Co.

Mr. RABAUT. Supply the names of the companies.

Colonel PENNEY. Yes, sir.

(The information requested is as follows:)

Great Lakes Dredge & Dock Co.
Arundel Co.
Gahagan Dredging Corp.
Bay State Dredge & Contracting Co.

Mr. BOLAND. This is essentially a dredging project; is it not?

Colonel PENNEY. Yes.

Mr. BOLAND. Does the Corps of Engineers have any of its own dredging equipment?

Colonel PENNEY. Yes; we do some dredging. We have hopper dredges.

Mr. BOLAND. How long have you been with the corps?

Mr. RESTALL. Over 20 years.

Mr. BOLAND. Is it not a fact that one company has been getting most of the work in that harbor over a good number of years?

Mr. RESTALL. If that is so I would not know that. I have been with Boston only 5 years and have seen nothing like that.

Mr. BOLAND. Does anyone know?

Colonel PENNEY. No, sir.

Mr. BOLAND. Would you supply for the record the answer to the question whether or not one company has been doing most of the work in that harbor over a good number of years?

Colonel PENNEY. Yes, sir.

(The information requested is as follows:)

Dredging operations in Boston Harbor during the past 10 years have been performed by 5 separate contractors, 2 on new work, and 3 on maintenance. One contractor has been awarded 66 percent of the volume and 64 percent of the cost of this work, including the continuing contract awarded in September 1956 for 4,755,000 cubic yards at a cost of $4,622,000 over the next few years. On a volume basis, the other 4 contractors were awarded 27 percent, 5 percent, 1.3 percent, and 0.3 percent of the work, and on a cost basis the corresponding distribution is 27 percent, 6 percent, 3 percent, and 0.4 percent.

ABILITY OF CORPS TO DO WORK WITH OWN EQUIPMENT

Mr. BOLAND. Also supply for the record whether or not the Corps of Engineers could do this particular work.

Colonel PENNEY. I will supply the answer, sir.

(The information requested is as follows:)

In most instances, Corps of Engineers equipment could do the work. There are some channels for which present Corps of Engineers equipment would not be suitable.

Mr. BOLAND. On "Maintenance and operation," what do you spend for just the routine dredging in Boston Harbor?

Colonel PENNEY. In the last few years it has not been much, sir, in the last 3 years I have a record for. In fiscal 1956 it was about $7,000.

Mr. BOLAND. Is this put out on a bid basis, too, or done by the corps?

Colonel PENNEY. It is done by bids generally, sir. The amount of hopper dredging equipment we have is quite limited.

Mr. BOLAND. What company has been doing the dredging for maintenance and operation of Boston Harbor? What company was the successful bidder last year?

Colonel PENNEY. I should like to supply that, sir.

(Last year all maintenance dredging was done by Government hopper dredge.)

Mr. BOLAND. This is information you ought to have here. This is information that is actually routine; is it not?

Colonel PENNEY. No, sir. We do not bring that detailed information here on the operation and maintenance. I don't have it.

Mr. BOLAND. You say the estimates were low on this particular channel. The project was estimated to cost $3,500,000, and it is now up to $5 million. I wonder if one of the reasons for the increase is that you do not have a sufficient number of bidders. Ordinarily the corps is not that far off in its estimates.

Colonel PENNEY. First, sir, there is only a limited number of bidders in New England.

Mr. BOLAND. There is no collusion among these companies that do the dredging up there, is there?

Colonel PENNEY. Not that we know of, sir.

Mr. BOLAND. That is all, Mr. Chairman.

GENERAL INVESTIGATIONS

Mr. FOGARTY. Mr. Chairman, I had anticipated asking about the Rhode Island projects at one place, but perhaps it would be more orderly if I went along and asked questions as these items occur.

I would like to go back to page 4 on "General Investigations." We have under study now four projects in Rhode Island.

PAWTUXET COVE

In the Pawtuxet Cove, where the total estimated cost is $8,000, you are allocating only $1,500 for 1958. Why is that?

Colonel PENNEY. That will initiate the study, sir. There has been no work done on the study to date and we consider that would do the preliminary phase to give a determination of the need for completing the studies, sir.

Mr. FOGARTY. About $1,500 is allocated for this purpose in 1958. Would you anticipate, then, that the other $6,500 would be allocated in 1959 and the study completed?

Colonel PENNEY. That is what we would anticipate, sir. That is what we would like to do.

Mr. FOGARTY. Then we can look forward to completion in a 2-year period?

Colonel PENNEY. Yes.

Mr. FOGARTY. It is not practical to try to do it in 1 year?

Colonel PENNEY. We feel this $1,500 would serve the purpose of an orderly development of the study, sir.

BLACKSTONE RIVER

Mr. FOGARTY. You spoke about new projects, one below the Woonsocket area on the Blackstone River.

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. Tell me about it. Have we spent anything on it, what is the estimated cost, and so on?

Colonel PENNEY. It has been developed in the course of the flood-control study on the Blackstone River, sir, and it is the first report to be submitted on that river, an interim report. It has just been submitted to the Chief of Engineers Office and, as I recall roughly, it provides for flood protection in the Woonsocket social district south of Woonsocket and in the Hamlet district, and also in an intermediate area.

The report of the division engineer indicates that it appears to be well justified economically and, as I recall, the estimated cost is about 4 or 5 million dollars.

Mr. FOGARTY. $40,000 is the estimated cost of this study. $30,000 has been spent and you have $10,000 to spend to complete the investigation in the next fiscal year?

Colonel PENNEY. That is a study where our estimated cost has increased.

Mr. FOGARTY. How much will it be?

Colonel PENNEY. $95,000.

Mr. FOGARTY. Total estimated cost?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. How much are you spending prior to 1958?

Colonel PENNEY. $35,000.

Mr. FOGARTY. What will you spend in 1958?

Colonel PENNEY. We have $10,000 allocated to it, sir.

Mr. FOGARTY. That is all, even though your costs have risen that much? You will allocate the same amount you anticipated with a $40,000 estimated cost?

Colonel PENNEY. That is our plan, and then we would complete the study in the next year. There are other areas that need investigation between Worcester and Woonsocket, and we feel that will be an orderly process for the study, sir.

Mr. FOGARTY. What are you doing about the investigations between Worcester and Woonsocket?

Colonel PENNEY. That is a second phase of the study, sir, and it has not yet been started. The study to date has concentrated on the area below Woonsocket.

Mr. FOGARTY. When do you anticipate you will get started in your studies between Woonsocket and Worcester?

Colonel PENNEY. In fiscal 1958, sir.

Mr. FOGARTY. How much do you anticipate will be expended in the next fiscal year in that area?

Colonel PENNEY. We have requested $10,000, sir, for continuation of the study.

Mr. FOGARTY. Where does that show in the justifications?

Colonel PENNEY. On page 5 at the bottom, the last item, Blackstone River, Rhode Island, and Massachusetts.

Mr. FOGARTY. So you will do no further work in the Woonsocket area in fiscal 1958?

Colonel PENNEY. No, sir. The report will have been completed in that area. It has been submitted.

Mr. FOGARTY. And that investigation has been completed?

Colonel PENNEY. That is correct.

Mr. FOGARTY. So this additional money will be expended from Woonsocket to Worcester?

Colonel PENNEY. That is right.

Mr. FOGARTY. Is that the reason for the increase from $40,000 to $95,000?

Colonel PENNEY. That is part of the reason. Actually the cost of the overall study, including Woonsocket and the area up above, we find will come to more than the original estimate.

Mr. FOGARTY. When do you anticipate that study will be completed, the study between Woonsocket and Worcester? Can you complete it in 1959?

Colonel PENNEY. We believe we can.

Mr. FOGARTY. Are there any other anticipated projects in this area that will in any way affect Rhode Island? Is there anything above Rhode Island that actually affects Rhode Island so far as flood control is concerned?

Colonel PENNEY. That is what the study would develop in that area, sir, upstream to Worcester.

Mr. FOGARTY. West Hill is between Worcester and Woonsocket, is it not?

Colonel PENNEY. Yes, sir. That will affect Rhode Island, of course. It is an authorized project.

Mr. FOGARTY. What is the status of that project?

Colonel PENNEY. That project is under planning, sir. Funds were appropriated in fiscal 1957 for planning and funds are requested in this budget request for completion of the planning in fiscal 1958.

Mr. FOGARTY. When do you anticipate the construction will begin and when will it be completed?

Colonel PENNEY. Sir, upon the completion of planning that project will become eligible for consideration as a new construction start in subsequent budgets after fiscal 1958, and we actually have prepared no schedule of construction yet, but it would probably be a 2- or 3-year project.

Mr. FOGARTY. It is important to Rhode Island, though, is it not?

Colonel PENNEY. Yes, sir. Actually it would furnish flood damage reduction along the Blackstone River in Massachusetts and Rhode Island.

Mr. FOGARTY. I hope you don't just pass it by. We have spent all this money on planning. I hope you have some plans in mind for construction.

Colonel PENNEY. Mr. Fogarty, upon completion of preconstruction planning of a flood-control project like this, that is the objective, completing the planning so it can be in shape to be given proper consideration for starting construction.

Mr. FOGARTY. You have no reason to believe that it will be passed over at this point?

Colonel PENNEY. I can assure you, sir, we will consider it very carefully.

Mr. FOGARTY. What about the Worcester diversion project?

Colonel PENNEY. Worcester diversion——

Mr. FOGARTY. Is that completed yet?

Colonel PENNEY. No, sir. Construction funds were appropriated in fiscal 1957 and the project is essentially planned, funds were for completion of planning, and construction is expected to get underway within the next month.

Mr. FOGARTY. Would those projects in the East Brimfield area have any effect on Rhode Island?

Colonel PENNEY. No, sir.

Mr. FOGARTY. Would you also insert in the record what effect the construction of this West Hill project would have on the floodwaters of the Blackstone River and that immediate area?

Colonel PENNEY. Yes, sir.

(The requested in formation follows:)

The effect of West Hill Reservoir on the crest of the 1955 flood on the lower Blackstone River at Woonsocket and Pawtucket, R. I., is indicated in the following table:

Effect of West Hill Reservoir, 1955 flood

Location	Natural		Modified	
	Flow (cubic feet per second)	Stage (feet)	Flow (cubic feet per second)	Stage (feet)
Woonsocket USGS stage	29,600	[1] 129.2	25,250	[1] 127.7
Pawtucket-Slaters Mill	35,000	36.2	31,800	35.5

[1] Stage resulting from failure of Harris Pond Dam with a discharge of 32,900 cubic feet per second. For a flow of 29,600 cubic feet per second the natural stage would be 128.3 and the modified stage would be 126.8.

Mr. FOGARTY. That is all I have, Mr. Chairman.

MERRIMACK RIVER

Mr. BOLAND. You have $14,000 listed here for a study of the Merrimack River. Is that right?

Colonel PENNEY. Yes, sir.

Mr. BOLAND. The State of New Hampshire and the State of Massachusetts have just completed a Merrimack River flood-control compact, have they not?

Colonel PENNEY. Yes, sir.

Mr. BOLAND. Are there any recommended projects, or has the Corps of Engineers recommended any projects in the way of flood control in the Merrimack Valley?

HOPKINTON-EVERETT

Colonel PENNEY. Yes, sir. The Hopkinton-Everett project.

Mr. BOLAND. Is that an authorized project?

Colonel PENNEY. Yes, sir.

Mr. BOLAND. Have you spent money on planning?

Colonel PENNEY. Yes, sir.

Mr. BOLAND. How close to completion is planning on the Hopkinton-Everett project?

Colonel PENNEY. Very little has been done.

Mr. BOLAND. How much will be needed to complete planning on it?

Colonel PENNEY. I will supply it for the record, sir.

(The information requested is as follows:)

The additional funds required to complete preconstruction planning amount to $850,000.

Mr. BOLAND. Are there any other projects in the Merrimack Valley which the corps has recommended outside of the Hopkinton-Everett project?

Colonel PENNEY. Actually the corps has constructed 3 projects there, 3 dams—Franklin Falls, Blackwater, and Edward MacDowell. There also have been constructed a couple of local protective works.

Further progress in the Merrimack River Basin on flood control depends on the Hopkinton-Everett project, which is a very important element and the next step to providing flood control in the Merrimack where there is a great flood potentiality.

Mr. BOLAND. I presume the one reason you haven't requested funds is because there has not been a compact between New Hampshire and Massachusetts?

Colonel PENNEY. New Hampshire had not agreed to the project until quite recently, sir.

Now they have agreed to the project and the ratification of the compact has been taken up by the Congress, and I believe it has been passed by the both Houses.

Mr. BOLAND. Will the corps ask for money this year for continued planning?

Colonel PENNEY. Sir, we are doing planning on it now.

Mr. BOLAND. You are in no position to request more funds?

Colonel PENNEY. No, sir. We are in no position to request funds.

Mr. BOLAND. You would have no objection if funds were appropriated? What do you think would be the amount necessary to continue orderly and expeditious planning on the Hopkinton-Everett Reservoir?

Colonel PENNEY. Sir, from an engineering standpoint, and without regard to fiscal policy, we would be able to economically use $600,000 to continue planning on Hopkinton-Everett, which would include $100,000 which would be proposed to be used for real estate acquisition in hardship cases that exist.

Mr. BOLAND. Is this absolutely essential to flood control in the Merrimack Valley?

Colonel PENNEY. We feel it is, sir.

Mr. BOLAND. That is all, Mr. Chairman.

WOONSOCKET

Mr. FOGARTY. On the Woonsocket project you say the survey has been submitted?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. To whom?

Colonel PENNEY. It is in the Office of the Chief of Engineers submitted by the New England division.

Mr. FOGARTY. How long has it been there?

Colonel PENNEY. A week or so. There was one item with respect to it where we needed clarification. That is being done and it should shortly be transmitted to the River and Harbor Board for review.

Mr. FOGARTY. Is the River and Harbor Board meeting at the present time?

Colonel PENNEY. They meet only about every 2 months, but in the meantime their engineering staff studies the reports so that the report may be considered by the members of the Board at their meeting. Their next meeting is in May.

Mr. FOGARTY. The Senate has already passed a public works bill which is now in the House committee. If the House committee takes action before the River and Harbor Board has a chance to look at this project that means the possibility of getting it authorized for the next fiscal year is very remote. Is that a fair statement?

Colonel PENNEY. That is a fair statement. After the review by the River and Harbor Board it is required by law to be referred to the State for comment and any other agencies concerned, and then it is transmitted to the Bureau of the Budget for a determination of the relationship to the fiscal program of the President. Following that it is submitted to Congress, so the provision of that time for its processing would make it a very remote thing for the project to reach Congress prior to consideration of the omnibus bill in the House.

Mr. FOGARTY. What happens when the Bureau of the Budget renders an adverse report and then Congress authorizes the project, anyway?

Colonel PENNEY. The project is authorized under the act on the basis that Congress authorizes it.

Mr. FOGARTY. Then, is it your responsibility to appear again before the Bureau of the Budget and request funds for that project?

Colonel PENNEY. That is correct.

Mr. FOGARTY. Does that happen once in a while?

Colonel PENNEY. It happens occasionally, sir. Comments of the Bureau of the Budget are generally favorable; sometimes they take objection to some point of the study. However, in any event, the project is transmitted to the Congress, together with the comments of the Bureau of the Budget, so that Congress may consider them in its authorization action.

Mr. FOGARTY. What happens to a project which has been submitted to the Bureau of the Budget and they just decide not to render any report and not take any action for a week or 6 weeks or 6 months?

Colonel PENNEY. Sir; I don't think that happens very often. I think the Bureau of the Budget takes action fairly promptly on these reports.

Mr. FOGARTY. They do on all reports?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. Is there anything that requires them to?

Colonel PENNEY. Not that I know of, except the desire for progress on worthy projects, Mr. Fogarty.

Mr. FOGARTY. You wouldn't make a favorable recommendation on any project that you did not think was worthy, would you?

Colonel PENNEY. That is correct, sir.

Mr. FOGARTY. Couldn't we assume, from that, that this is a worthy project and should have the Budget Bureau's approval?

Colonel PENNEY. On this project the division engineer, who is reporting officer, has found it worthy. The function of the River and Harbor Board under the law is to determine whether they believe it is worthy and to make a recommendation to the Chief of Engineers on which he can base his recommendation as to its merit, but before the Chief of Engineers recommends a project he will have assured himself based on those reviews that it is worthy.

Mr. RABAUT. We will recess until 2 o'clock.

AFTERNOON SESSION

FALL RIVER HARBOR

Mr. RABAUT. We will now take up the Fall River Harbor, Mass., project, and we will insert pages 18, 19, and 20 in the record at this point.

(The pages referred to are as follows:)

FALL RIVER HARBOR, MASS., (35-FOOT MIDBAY CHANNEL)

(Continuing)

Location.—About 50 miles south of Boston, Mass., on Mount Hope Bay, an arm of Narragansett Bay.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—1.3 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost	$2,000,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	2,000,000	
Appropriations to June 30, 1956	0	0
Appropriations for fiscal year 1957	500,000	25
Appropriations to date	500,000	25
Appropriations requested for fiscal year 1958	900,000	70
Balance to complete after fiscal year 1958	600,000	

PHYSICAL DATA

Channels.—Deepening the midbay channel from 30 feet to 35 feet, 400 feet wide, 3.5 miles long, between deep water in Mount Hope Bay and the completed 35-foot channel at Globe Wharf, Fall River.

Status (January 1, 1957): Contract for dredging 35-foot midbay channel awarded. Work not started.

Completion schedule: December 1958.

JUSTIFICATION

Fall River Harbor is the major port of southeastern Massachusetts. It is 1 of 5 ports in New England for which a 35-foot project depth has been authorized and is the only one in which the 35-foot depth has not been completed. Commerce in 1955 amounted to over 2 million tons, of which about 88 percent was in petroleum and petroleum products. During 1955 there were 104 vessel trips into the harbor made by vessels having a draft of 28 feet or more.

Local industries produce textiles, rubber goods, refractories, stoves, and brass, bronze, and silver products. A considerable area to the north is supplied with petroleum products through the port by truck and pipeline.

Under previous modifications a depth of 35 feet has been provided in the upper part of the harbor. In order to realize the full benefit of the completed work in the upper harbor and the benefits that could be attained from the project as a whole, the 35-foot midbay entrance channel from deep water to the existing improved channel is necessary and required at this time.

Fiscal year 1958.—The amount of $900,000 requested for fiscal year 1958 will provide for continuation of the dredging of the 35-foot midbay channel initiated in fiscal year 1957 under a continuing contract.

COMPLETED MODIFICATIONS, FALL RIVER HARBOR

Work completed consists of a channel 35 feet deep, 400 feet wide, from deep water in Mount Hope Bay to Tiverton lower pool and along the Tiverton shore to the Gulf Oil Corp. wharf; a channel from Globe wharf 35 feet deep, generally 400 feet wide, about 4 miles long, to the wharves north of the bridges at the mouth of the Taunton River; a 35-foot deep turning basin, 1,100 feet wide, 850 feet long at the head of the Taunton River channel; a channel 30 feet deep, generally 300 feet wide, along the Fall River waterfront adjacent to the 35-foot channel; and a 25-foot anchorage 800 feet wide, averaging 2,300 feet long, opposite the Fall River waterfront. The cost of this completed work is $2,637,000.

REMAINING AUTHORIZED MODIFICATIONS, FALL RIVER HARBOR

None.

Non-Federal costs.—There are no costs to local interests for compliance with requirements of local cooperation for this modification.

The Commonwealth of Massachusetts has expended about $1,500,000 on the construction of a pier and storage terminal in Fall River Harbor. Including the costs of land acquisition and remaining construction, the total expenditures by the Commonwealth are expected to total about $2 million on this improvement.

Other local interests have expended about $200,000 on rehabilitation and improvement of terminal facilities and have plans to spend $100,000 for further improvements.

Status of local cooperation.—Assurances to hold and save the United States free from all claims for damages due to the construction of the project were executed by the Commonwealth of Massachusetts on September 17, 1956, and by the State of Rhode Island on October 3, 1956.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2 million is an increase of $380,000 over the latest estimate ($1,620,000) submitted to Congress. Of this increase, $280,000 is based on bid prices received in November 1956, and $100,000 is due to increased volume of material to be removed, as established in recent detailed preconstruction surveys.

COST INCREASE

Mr. RABAUT. There has been an increase in the cost of this project also, from $1,620,000 to $2,000,000. What is the explanation for the increase?

Colonel PENNEY. This increase of $380,000 is as follows: $280,000 was based on bid prices received in November, $100,000 was due to the increased volume of material to be removed as established by a condition survey prior to the work.

Mr. RABAUT. Is that the only survey you have made of the project?

Colonel PENNEY. No, sir. We take surveys at the time of the authorization, but also just prior to going out for bids we take a condition survey to get the more correct quantities.

Mr. RABAUT. Was the estimate low?

Colonel PENNEY. Actually the prices that have recently been received in New England on bids for dredging work have been rising.

Mr. RABAUT. It seems to me that in this area everything is going up. We had some the other day in one of the other sections where costs were going down. I am trying to ascertain whether the estimates are off or whether we are getting high bids in this area.

Colonel PENNEY. Actually bid prices have been going up in New England, and to some extent to a greater degree than in other areas.

Mr. RABAUT. On what basis?

Colonel PENNEY. There are probably several reasons for that. First, the large dredging companies are based outside of New England; they are around Baltimore and Philadelphia and New York and they have to come up there to do the work.

Mr. BOLAND. Is not Great Lakes Dredging owned by Perini & Sons?

Colonel PENNEY. I think that is the first time that Great Lakes has come up there.

Mr. BOLAND. Who owns Great Lakes Dredging?

Mr. RESTALL. It is owned by Perini & Sons, I think.

Mr. BOLAND. Did not Great Lakes buy out the Bay States Dredging Co.?

Mr. RESTALL. I do not know.

Mr. BOLAND. Who was the successful bidder on this project? How many bids did you have for the Fall River Channel?

Colonel PENNEY. The successful bidder is Arundel Corp.

Mr. BOLAND. Did Great Lakes bid on this one?

Colonel PENNEY. I do not know.

Mr. RABAUT. Will you put into the record who bid on this project?

Colonel PENNEY. Yes, sir.

(The information is as follows:)

Arundel Co.
Great Lakes Dredge & Dock Co.
Bay State Dredge & Contracting Co.

Mr. RABAUT. I just wanted to find out if the estimates were too low, or are we just getting unreasonably high bids? I think that is cause for inquiry by us.

General PERSON. Our experience in dredging contracts has been worse than our experience in other types of contracts. For example, in contracts for dryland earth moving we have had very good bids over the last 3 or 4 years. But dredging prices have been very erratic and have constantly tended to go upward.

Mr. RABAUT. Is it caused by the fact that we have put too much work into operation at once?

General PERSON. That has had an effect on it.

Mr. RABAUT. Maybe we ought to cut some of this out for a while.

General PERSON. It has been very erratic.

Mr. RABAUT. We have had the same experience with the St. Lawrence seaway. Look where the prices have gone. The same thing has happened in roadbuilding. As soon as you are in a position to let contracts you find that you are getting about 60 percent of the work that you thought you were going to get with the dollar.

General PERSON. On the Amherstburg channel we got an excellent bid.

Mr. RABAUT. That is right down near Detroit, right across the river. You say that you got good bids there?

General PERSON. Yes. It was dryland work. Dredging bids have been erratic.

Mr. JENSEN. How many bids did you have on this project?

General PERSON. I do not know. That information is going to be inserted for the record.

Mr. RABAUT. While the estimated cost went up over 20 percent, I see that the benefit-cost ratio remained just about the same at 1.3 to 1. Why did not this ratio go down? The answer to that, I suppose, will be "We figured the costs are up on the new dollar, so the benefits are up on the new dollar." Is that the answer?

Colonel PENNEY. Yes, sir.

MYSTIC RIVER

Mr. RABAUT. We will now take up the Mystic River, Mass., project, and we will insert pages 23, 24 and 25 in the record at this point.

(The pages referred to are as follows:)

MYSTIC RIVER, MASS. (35-FOOT PROJECT)

(Continuing)

Location.—Channel in Mystic River, Mass., extending 1.3 miles from Boston Harbor, in northwesterly direction.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—6.8 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost	$2,600,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	2,600,000	
Appropriations to June 30, 1956	500,000	19
Appropriations for fiscal year 1957	1,500,000	77
Appropriations to date	2,000,000	77
Appropriations requested for fiscal year 1958	600,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channels.—Boston Harbor to Malden Bridge 35 feet deep, 575 feet to 1,060 feet wide for about 1 mile then reducing in width to 150 feet at Malden Bridge. Total length 1.3 miles.

Status (January 1, 1957):

Dredging of 35-foot channel is in progress.

Project is about 44 percent complete.

Completion schedule: September 1957.

JUSTIFICATION

The Mystic River serves a heavy industrial area of the port of Boston. The entrance channel and main harbor channel of Boston Harbor have been dredged to a depth of 40 feet. However, the full benefit of the deepwater port is not realized as long as shipping is limited by inadequate depths in the channels serving the waterfront terminals. Since 1945 Mystic River has handled an annual commerce ranging from 4 million to 5 million tons, including more than 40 percent of the imports and about 25 percent of the total commerce of the port of Boston.

There are located on the Mystic River the only major oil refinery of significant size in New England, a large electric power generating station, fuel

distributors, a lumber terminal, a sugar refinery, and important iron works, with the only blast furnace in New England. Since the principal commodities handled are petroleum products and coal, which are vital commodities in this industrial area, it is considered that a 35-foot channel is essential to the safe and unimpeded movement of vessels carrying these commodities.

The transition to larger ships, such as the supertankers, increases the need for the channel deepening. Seventy-five percent of the Mystic River commerce is petroleum products. Oil tankers presently suffer a cumulative total annual delay of over 2,000 hours. In addition, 30 supertankers a year enter Mystic River partly loaded, due to limitations of channel depth. Provision of this channel would eliminate these navigation delays and loading limitations.

Fiscal year 1958.—The amount of $600,000 requested for fiscal year 1958 will provide for the initiation and completion of ledge removal in the 35-foot channel from Boston Harbor to Malden Bridge, which will complete the entire improvement.

COMPLETED MODIFICATIONS, MYSTIC RIVER

Work completed consists of a 30-foot channel from Boston Harbor to Malden Bridge; a 20-foot channel between Malden Bridge and the Boston & Maine Railroad bridge: a 6-foot channel for a distance of about 1.3 miles above the railroad bridge; and a 4-foot channel for the remaining distance of 1.8 miles to Craddock Bridge, the upstream limit of the project. The cost of this completed work is $770,000.

REMAINING AUTHORIZED MODIFICATIONS, MYSTIC RIVER

None.

Non-Federal costs.—There are no requirements of local cooperation in connection with the improvement authorized in 1950. Local interests advise that they have expended $525,000 for channel dredging on the Mystic River; and $28 million for the removal of an obstructive swing-bridge and its replacement by a high level highway bridge over the channels, and for the removal and alteration to pipeline and cables. Since 1946, private interests have expended $2,300,000 for facilities for handling waterborne commerce, and have plans to expend, in the next few years, an additional $500,000 for docking facilities and $1,500,000 for expansion of oil-storage facilities. The Commonwealth of Massachusetts has widened, by dredging, the channel at the entrance of the river to a depth of 30 feet, at an estimated cost of $100,000.

Status of local cooperation.—Assurances to hold and save the United States free from all claims for damages due to the construction of the project were furnished by the Commonwealth of Massachusetts on September 26, 1955.

Comparison of Federal cost estimate.—No change from the latest estimate ($2,600,000) submitted to Congress.

Mr. RABAUT. What is the reason for your recommendation that the 1958 budget be reduced from $600,000 to $550,000?

Colonel PENNEY. That recommendation is based on a reduction in the contingencies required in connection with the dredging work that is just being completed.

Mr. RABAUT. Does this request for a reduction emanate from the engineers themselves, or have you been asked to cut this?

Colonel PENNEY. We did this ourselves, based on our review of the project.

Mr. RABAUT. How much did you ask originally for this project?

Colonel PENNEY. $600,000.

Mr. RABAUT. And your review brought it down to $550,000?

Colonel PENNEY. Yes.

Mr. BOLAND. Who was the successful bidder on this? This is channel work also?

Colonel PENNEY. Yes, sir.

May I furnish that for the record?

Mr. RABAUT. Furnish that for the record and how many bidders you had.

(The requested information follows:)

The successful bidder was Gulf, Atlantic & Pacific Co. There were four bidders.

WEYMOUTH FORE RIVER

Mr. RABAUT. We will now take up the Weymouth Fore River project, and we will insert for the record pages 28, 29, and 30.

(The pages referred to are as follows:)

WEYMOUTH FORE RIVER, MASS. (30-FOOT PROJECT)

(Continuing)

Location.—Weymouth Fore River rises in Braintree, Mass., and flows northward 7.5 miles to empty into Hingham Bay on the south side of Boston Harbor. It is navigable and tidal to an old dam at East Braintree, 6.2 miles above the mouth. Entrance to Weymouth Fore River is possible either through West Gut between Nut and Peddocks Islands or through Nantasket Gut between Peddocks Island and the mainland.

Authorization.—1940, 1945, and 1954 River and Harbor Acts.

Benefit-cost ratio.—3.1 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost (Corps of Engineers)	$5,300,000	
Estimated Federal cost (U. S. Coast Guard)	219,000	
Estimated non-Federal cost	75,000	
Cash contribution	0	
Other costs	75,000	
Total estimated project cost	5,594,000	
Appropriations to June 30, 1956	0	0
Appropriations for fiscal year 1957	500,000	9
Appropriations to date	500,000	9
Appropriations requested for fiscal year 1958	1,350,000	35
Balance to complete after fiscal year 1958	3,450,000	

PHYSICAL DATA

Channels.—Dredge channel 30 feet deep, 300 to 500 feet wide, from deep water in Boston Harbor along the southerly half of the Narrows Channel in Nantasket Roads and through Nantasket Gut, across Hingham Bay into Weymouth Fore River to Weymouth Fore River Bridge and extending through and above the bridge to form a maneuvering basin 470 to 650 feet wide.

Status (Jan. 1, 1957): Not started.

Completion schedule:

Dredging September 1958.

Ledge removal May 1960.

JUSTIFICATION

Weymouth Fore River is an important channel contributing to the commerce of Boston. Commerce in 1955 amounted to approximately 1,370,000 tons of which 99 percent was in coal and petroleum, carried in tankers and colliers having drafts of 25 to 32 feet. Under existing conditions, large tankers operate on the tide and in a circuitous route around West Gut incurring dangers of grounding, lost time waiting the tides and inefficient operations due to underloading. Improvement is essential to provide a direct and safer route for present and prospective traffic of deep-draft tankers and colliers and to insure a continuous and unimpeded transportation of fuels to the many industries served by the project.

Fiscal year 1958.—The amount of $1,350,000 requested for fiscal year 1958 will permit continuation of dredging operations initiated under a continuing contract in fiscal year 1957, complete alterations to Government cables and preparation of plans and specifications for the removal of the ledge areas in fiscal year 1959 and 1960.

COMPLETED MODIFICATIONS—WEYMOUTH FORE RIVER

The completed work consists of a channel 27 feet deep, with a general width of 300 feet from a point in Hingham Bay between Nut and Peddocks Islands to Weymouth Fore River Bridge as authorized by the River and Harbor Act of August 30, 1935 (H. Doc. 207, 72d Cong., 1st sess.). This work was completed in 1940 at a cost of $355,000.

REMAINING AUTHORIZED MODIFICATIONS, WEYMOUTH FORE RIVER

None.

Non-Federal costs.—Local interests must bear the cost of altering the submarine utilities, not owned by the United States, at an estimated cost of $75,000.

Local interests, including the Commonwealth of Massachusetts, the Bethlehem Steel Co., and the city of Quincy, have contributed about $229,000 under conditions of local cooperation in connection with previous improvements. In addition, local interests have incurred costs of over $770,000 to date for further improvements to Weymouth Fore River which included channel, berth, and basin dredging and improved docking facilities.

Status of local cooperation.—Assurances to hold and save the United States free from all claims for damages due to the construction of the project were furnished by the Commonwealth of Massachusetts on September 17, 1956.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,300,000 is an increase of $242,000 over the latest estimate ($5,058,000) submitted to Congress. The estimate for channels was increased by $244,000, due to rising prices for dredging and rock removal, which was slightly compensated by reductions in the cost estimate for direct Government costs based on experience with projects of similar scope and complexity.

Mr. RABAUT. This was submitted in a supplemental request last year, so it must have been considered important to get the project started, but according to the justifications it had not been started by January 1. What was the reason for justifying this project under a supplemental and then not starting it?

Colonel PENNEY. This was budgeted in an amendment based on savings from other projects. It is an important project. It has a benefit-cost ratio of more than 3 to 1. Weymouth is an important channel that contributes to the commerce of Boston, which has been increasing, and benefits adequately justify the costs.

Mr. RABAUT. Why is it that you have not started it yet?

Colonel PENNEY. Sir, we were able to get it only last year. Do you mean construction?

Mr. RABAUT. Yes.

Colonel PENNEY. I would like to tell you about that, sir.

Mr. RABAUT. There was $500,000 last year for construction. Did you do any of it?

Colonel PENNEY. No, sir, and we propose not to do any this fiscal year, but to defer the work and combine it with work scheduled for the fiscal year 1958. Actually, that project was advertised in November. Only two bids were received and we considered they were excessive. We felt we would do better by combining it with more work next year.

Mr. RABAUT. You thought the bids were excessive?

Colonel PENNEY. Yes.

Mr. RABAUT. It has a good benefit-cost ratio.

Colonel PENNEY. That is correct, sir.

Mr. RABAUT. Last year the schedule was to complete dredging by May of 1958. Now it is scheduled for September of 1958. Do you think that is pretty firm now?

Colonel PENNEY. Yes. We intend to advertise this project again, which will be right after the first of the fiscal year, and, subject to receiving bids that will permit award, the schedule is September and we think that is reasonable.

GREAT LAKES TO HUDSON RIVER WATERWAY

Mr. RABAUT. We will now take up the Great Lakes to Hudson River Waterway project, and we will insert pages 34, 35, and 36 in the record at this point.

(The pages referred to are as follows:)

GREAT LAKES TO HUDSON RIVER WATERWAY, N. Y. (13-FOOT LOCK DEPTH)

(Continuing)

Location.—This waterway consists of that portion of the New York State barge canal system extending from the Hudson River at Waterford to Oswego Harbor, N. Y., on Lake Ontario, and is usually referred to as the Erie and Oswego Canals. Its length is 184 miles.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—5.1 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$1,900,000	
Estimated non-Federal cost	186,000	
Cash contribution	0	
Other costs	186,000	
Total estimated project cost	2,086,000	
Appropriations to June 30, 1956	36,000	
Appropriations for fiscal year 1957	275,000	
Appropriation to date	311,000	16
Appropriations requested for fiscal year 1958	340,000	34
Balance to complete after fiscal year 1958	1,249,000	

PHYSICAL DATA

Locks: Increase depth of all locks between Waterford and Oswego from 12 to 13 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Locks: Deepening through locks to 13 feet:		
Locks 2 to 7 inclusive, 9 and 10, Erie Canal	100	
Locks 11, 17, 18, 23, Erie Canal, and Lock 1, Oswego Canal	6	April 1957.
Locks 12 to 16 and 19 to 22, inclusive, Erie Canal	0	April 1958.
Locks 2, 3, 6, 7, and 8 Oswego Canal	0	Do.
Entire project	17	Do.

JUSTIFICATION

This waterway is one of national importance to commercial navigation. It provides a navigable connection between the Atlantic Seaboard and the Great Lakes area for the movement of commodities vital to the national defense and

essential civilian requirements. Many defense plants are located on and receive shipments via the canal system, among which are the General Electric Co. and the American Locomotive Co. at Schenectady and the Solvay Process Co. at Syracuse. Much of the petroleum fuel and other petroleum products utilized by communities and industries in central and northern New York and the eastern Great Lakes areas are transported over this waterway. The State Barge Canal serves the important industrial cities of Schenectady, Utica, Rome, Syracuse, and Oswego.

Approximately 4,600,000 tons of traffic used this waterway during the 1955 season. Traffic consists largely of petroleum products, scrap iron, steel products, chemicals, fertilizers, and agricultural products. Shipping interests variously estimate that the loads carried by vessels can be increased 10 to 18 percent by a 1-foot increase in draft which will be made possible by the deepening of the locks to project depth of 13 feet.

Fiscal year 1958.—The requested amount of $340,000 will be applied to:

Reimbursement to the State of New York for work to be performed in fiscal year 1957 in providing depth of 13 feet through locks 11, 17, 18, and 23, Erie Canal, and lock 1, Oswego Canal	$317,600
Supervision and Administration	22,400
Total	340,000

REMAINING AUTHORIZED MODIFICATION—WATERFORD TO OSWEGO

The modification in the 1935 R and H Act provides for deepening between locks to 14 feet, increasing overhead clearances to 20 feet and widening at bends and elsewhere. Work on this modification, which is estimated at $36,900,000, is 62 percent complete.

Non-Federal costs.—The cost to local interests in complying with the requirements of local cooperation for the 1945 R and H Act for deepening through locks from Waterford to Oswego is estimated at $186,000 for engineering, supervision and administration, to be incurred by the State of New York in connection with construction of the project modification.

In addition, prior to the beginning of the New York State barge canal improvement, about 1905, the State of New York expended approximately $115 million for the construction, care, and maintenance of the Erie Canal. From 1905 to June 30, 1938, the cost of construction of the improved barge-canal system and terminals, borne by the State, totals about $180 million. Annual maintenance of the improved system averages $3,750,000.

Status of local cooperation.—The requirements of local cooperation have been fully complied with. An agreement between the Chief of Engineers and the Department of Public Works, State of New York, adopted June 21, 1935, modified on March 30, 1936, and further supplemented on June 5, 1947 (for the 1945 modification), contains all provisions necessary for efficient prosecution of the improvement. In complying with this agreement, the State has submitted detailed plans and specifications for review and approval by the Federal Government prior to the State's advertisement of construction work. The State has been proceeding at its own expense with the work of lowering the lock sills in conjunction with urgent maintenance and rehabilitation work on the same structures, on the premise that funds invested by them in the authorized improvements will be reimbursed when the Federal funds become available.

Comparison of Federal cost estimates.—The current Federal cost estimate of $1,900,000 is an increase of $130,000 from the latest estimate ($1,770,000) submitted to Congress. The increase is primarily due to refinements in the cost estimates for individual locks as recently submitted by the State of New York, based on actual costs of work completed or underway and more detailed planning for the remaining work.

Mr. RABAUT. Was not this canal built by the State of New York at its own cost? It is owned by the State, is it not?

Colonel RENSHAW. That is right.

Mr. RABAUT. How did the Federal Government get involved in this matter?

Colonel RENSHAW. This project was authorized in 1945, sir, by the Federal Government.

Mr. RABAUT. Are we taking over the State's business on this?

Colonel RENSHAW. No. The State maintains this canal, but the Federal Government, in an authorized project, has agreed to the cost of deepening the canal, both in the locks and between the locks.

Mr. RABAUT. You have had $311,000 up to date. That is 16 percent of the project. The request for 1958 brings it up to 34 percent, or $340,000 additional, but now you have asked for a reduction to $190,000. Is this the Engineers asking for this reduction?

Colonel RENSHAW. We have asked for this reduction, sir.

Mr. RABAUT. I have a table in my hand showing a total of $13,335,000 in reductions, from the original budget, you have requested for projects throughout the country. Is this with the idea of taking cognizance of the high peacetime budget that we have?

General PERSON. We requested our field agencies to review all their projects shortly before these hearings started to be sure we were giving Congress our best estimate of how much money we really needed. That is how we got the $13,335,000 reduction, sir.

Mr. RABAUT. And this $13,335,000 reduction will be reflected in different places in the justifications?

Colonel RENSHAW. Right.

Mr. RABAUT. And in this particular instance it is cut from $340,000 to $190,000; is that right?

Colonel RENSHAW. That is right.

Mr. RABAUT. Is reimbursement, for which this appropriation is requested, a legal obligation on the Federal Government that the State could collect in the courts if an appropriation is not made?

Colonel PENNEY. I do not know about the legality, sir. The project was authorized to be done by the Federal Government as a Federal project, this deepening, the work to be done by the State of New York with Federal funds. Now, the State has chosen to go ahead on its own initiative and do this work, together with urgently needed maintenance with the expectation that they will be reimbursed. As far as an obligation is concerned, it would only be a moral obligation to reimburse them.

Mr. RABAUT. Is not most of your work done with contractors? You usually hire a contractor, often getting several bids, and go ahead with the work.

Colonel PENNEY. Yes.

Mr. RABAUT. Is this a departure from your usual practice? I mean telling a State that you are going to allow them to do the work for you, or that you are going to have your work intertwined with the work of the State and let the State tell you what part they are going to send a bill for?

Colonel RENSHAW. The State does the plans and specifications. They submit the plans and specifications to us for our approval. That is called for in the project document.

Mr. RABAUT. What about the price?

Colonel RENSHAW. We decide what part of the price is maintenance and what part is new construction.

Mr. RABAUT. Who is "We"?

Colonel RENSHAW. The Corps of Engineers.

Mr. RABAUT. The Corps of Engineers is going to decide it?

Colonel PENNEY. Then it is done by bid.

Mr. RABAUT. Then they are going to give it out to private contractors?

Colonel RENSHAW. Yes. They take bids on it. And the contract document must have the approval of the Corps of Engineers.

Mr. RABAUT. What is the reason for this procedure in this instance? Is it to save money?

Colonel RENSHAW. Yes.

Mr. RABAUT. Because the two types of work dovetail and each doing a separate part would be a waste of money?

Colonel RENSHAW. That is correct.

Mr. RABAUT. Is reimbursement made for 100 percent of the cost of lowering the lock sills?

Colonel RENSHAW. Yes. The Federal Government reimburses the State. The $190,000 we are asking for here is to cover the work now under contract.

Mr. RABAUT. And when all the work of lowering these locks is completed, the Federal cost is going to be $1,900,000 and the estimated non-Federal cost only $186,000?

Colonel RENSHAW. That is right. That does not cover the maintenance work. New York State maintains the canal. New York spent about $3,750,000 a year maintaining this waterway.

Mr. RABAUT. Where is the incentive for the State to do the job economically if the Federal Government picks up the bill?

Colonel RENSHAW. We review the plans and specifications and if we do not like the way they are drawn, if they are not done in the most economical way, we do not have to approve the project.

Mr. RABAUT. Your judgment of this is going to be based on your own past experience with this type of work?

Colonel RENSHAW. That is correct.

Mr. RABAUT. And if the bids were way out of line you would reject them?

Colonel RENSHAW. Yes.

Mr. RABAUT. I do not anticipate that, but I just want to know, and I think the public is entitled to know.

Mr. JENSEN. Are there any other projects handled in a similar manner?

General PERSON. Very frequently we handle road relocations in the same way with the State highway departments preparing the plans and building the highway with our reimbursement.

Mr. JENSEN. Are there any other projects handled in this manner? This is not a dredging project, is it?

Colonel RENSHAW. This project is lowering the sills in the existing locks; it is not dredging. It is more of a construction project.

Mr. JENSEN. In fact then, the authorities of the State of New York are acting as the agent of the Federal Government; are they not?

General PERSON. Yes, sir.

Mr. JENSEN. Do you think that is good in this instance?

Colonel RENSHAW. Yes. It has been going on that way for a number of years, and it has been working very well.

Mr. JENSEN. And you think it saves the taxpayers of America some money?

Colonel RENSHAW. I believe it does. We expect to save about $105,000 over the Government estimate on the current work.

Mr. JENSEN. Is that due primarily to the fact that it reduces your administrative costs; that the State of New York does most of the paperwork for you, so to speak, and then your people do not have to be employed in setting up the project and plans and so forth?

Colonel RENSHAW. The State of New York has 2 or 3 contractors that are very experienced in this work and know these locks and this waterway, and they have been successful bidders on the last few jobs that have been let.

Mr. JENSEN. How many bids did you have on this job?

Colonel RENSHAW. I think that we had about three bids.

Mr. RABAUT. Does New York collect any tolls on this waterway?

Mr. TABER. They do not.

Mr. RABAUT. The gentleman from New York is up on everything in his State.

Mr. TABER. They collect no tolls.

JONES INLET

Mr. RABAUT. We will now take up the next project, Jones Inlet, N. Y., and we will insert pages 39, 40, and 41 in the record at this point.

(The pages referred to are as follows:)

JONES INLET, N. Y.

(Continuing)

Location.—Jones Inlet is on the south shore of Long Island connecting Hempstead Bay with the Atlantic Ocean. It is located in the town of Hempstead, Nassau County, N. Y., about 37 miles by water southeast of the Battery, New York City.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—Justification based primarily on safety for small-craft navigation.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$1,780,000	
Estimated non-Federal cost	2,020,000	
Cash contribution	1,780,000	
Other costs	240,000	
Total estimated project cost	3,800,000	
Appropriations to June 30, 1956	5,000	
Appropriations for fiscal year 1957	1,470,000	
Appropriations to date	1,475,000	83
Appropriations requested for fiscal year 1958	305,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channel:

From Atlantic Ocean through the inlet, 12 feet deep and 250 feet wide, to the loop causeway bridge over Long Creek.

Length, 2.1 miles.

Jetty: Rubble-mound jetty on east side of inlet extending generally in a southwest direction, 5,200 feet to the 12-foot contour.

Status (Jan. 1, 1957)

	Percent complete	Completion schedule
Jetty: Entrance jetty	94	March 1957.
Channels: 12-foot channel	87	January 1957.
Entire project	93	March 1957.

JUSTIFICATION

The immediate area contiguous to Jones Inlet has in it one of the greatest concentrations of watercraft in the country. About 25,000 trips are made annually through the inlet by pleasure and commercial craft. Records reveal that since 1935 10 persons were drowned and many lives imperiled due to the hazardous conditions prevailing in the inlet. Frequent poor visibility and numerous changes of the channel due to shifting sand shoals resulting from wave and tidal action make the danger of grounding and capsizing in the breakers imminent. Its exposed location renders it subject to wave and swell action requiring utmost care on the part of the navigator for successful transit in even moderate weather. The United States Coast Guard attempts to maintain buoys to mark the channels but no one dares rely on these marked buoys due to the constantly changing channel. The buoys have been shifted 41 times in the past few years by Coast Guard personnel. The provision of a 12-foot channel protected by a jetty will eliminate the existing hazards and delays to navigation, will result in a considerable increase in the use of the waterway, will eliminate a serious hazard to the lives of a large number of recreational and commercial boatmen and will reduce the erosion of Point Lookout, bordering the inlet on the west where valuable developed property with an assessed valuation of better than $8 million is located. Local interests are acutely aware of unsafe conditions in the inlet and have contributed and advanced funds in order that construction of the jetty and dredging of the project channel be accomplished without further delay.

Construction of the jetty is necessary to stabilize the inlet and will reduce the hazard to small boat traffic. Upon making the inlet safe, a tremendous benefit to the area will occur. The fishing business will be greatly enhanced in value. Recreational use will increase greatly. Industrialization of frontages, which could be served by water carriage of commodities, will be stimulated.

Fiscal year 1958.—The requested amount of $305,000 provides for repayment in full of funds advanced by local interests for completion of the project. Work was started on this project in 1953 and is scheduled for completion in March 1957. Local interests have made the required contribution of funds, and have also advanced sufficient funds to expedite project completion. Federal funds appropriated in fiscal year 1957 in the amount of $1,470,000 were utilized as partial reimbursement of funds already advanced. Prompt reimbursement of the remaining indebtedness is an obligation of the Government to minimize the burden on local interests for interest charges on money borrowed to cover the Federal share of the improvement.

Non-Federal costs.—The authorizing legislation required that local interests contribute 50 percent of the first cost of the improvement. This contribution is presently estimated at $1,780,000. In addition, local interests are required to provide and maintain a 12-foot channel in Long Creek from the Loop Causeway Bridge to Freeport, N. Y. The first cost of the deepened channel is $240,000. The estimated annual cost of maintenance to local interests is $5,000.

Status of local cooperation.—The State of New York, Nassau County, and the town of Hempstead, adopted a resolution on February 27, 1953, assuring the United States that the requirements of local cooperation would be supplied. All requirements have been fully compiled with. Local interests have contributed 50 percent of the estimated total cost of the project ($1,780,000), completed dredging a channel 12 feet deep and 200 feet wide from the Loop Causeway Bridge to Freeport, and furnished all required lands, easements, rights-of-way, and spoil-disposal areas.

Comparison of Federal cost estimate.—The current Federal cost estimate of $1,780,000 is a net decrease of $5,000 from the latest estimate ($1,785,000) submitted to Congress. An increase in jetty construction costs based on additional quantities required was compensated by a decrease in channel dredging cost resulting from changed method of accomplishment and favorable bids received.

THOMASTON RESERVOIR

Mr. RABAUT. We will now take up the Thomaston Reservoir, Conn., and we will insert pages 45 through 48 in the record at this point.

(The pages referred to are as follows:)

THOMASTON RESERVOIR, CONN.

(Continuing)

Location.—On the Naugatuck River 30.4 miles above its confluence with the Housatonic River, and 1.6 miles above the U. S. Routes Nos. 6 and 202 bridge crossing of the Naugatuck River in the village of Thomaston. The reservoir will lie in the towns of Harwinton, Plymouth, Litchfield, Thomaston, and Torrington in Litchfield County.

Authorization.—Flood Control Act of 1944.

Benefit-cost ratio.—4.7 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$17,200,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	17,200,000	
Appropriations to June 30, 1956	165,000	
Appropriation for fiscal year 1957	1,000,000	
Appropriations to date	1,165,000	7
Appropriation request for fiscal year 1958	3,200,000	25
Balance to complete after fiscal year 1958	12,835,000	

PHYSICAL DATA

Dam:
Type: Earth and rock fill.
Height: 142 feet.
Length: 2,000 feet.
Spillway:
Type: Uncontrolled side channel, concrete overflow.
Crest elevation: 494 feet mean sea level.
Capacity: 132,200 cubic feet per second.
Length: 435 feet.
Reservoir capacity: Flood control: 41,500 acre-feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Land acquisition	2	Entire project, June 1960.
Relocations	(1)	Land acquisition, June 1960.
Dam		Relocations, June 1960.
		Dam closure, May 1959.

[1] Not started.

JUSTIFICATION

Thomaston Reservoir lies in a highly industrialized and densely populated section of southern New England. It is the only authorized flood-control project in the Housatonic River Basin. Construction of the project is necessary to effect major reductions in flood damages along the Naugatuck River, Conn., from Thomaston to the mouth, including Waterbury, Naugatuck, Beacon Falls, Seymour, Ansonia, and Derby. The Naugatuck River Valley is one of the country's major brass and metal manufacturing centers. In addition, textile, rubber, and

chemical plants are located in the valley. The output of these industries, which are concentrated in the towns and cities downstream of the proposed project, is of major importance to the national and local economy.

The flood of December 1948 caused damages amounting to $3,750,000 downstream of the dam site. It is estimated that these damages would amount to $4,700,000 from a flood of similar magnitude under present conditions and that operation of the Thomaston project would prevent $4,250,000 of these damages.

The flood of August 1955 caused damages amounting to $196,040,000 along the Naugatuck River below the Thomaston site. Thomaston Reservoir would have prevented $163,500,000 damages of these had it been in operation during this flood. Annual flood control benefits for the project are estimated at $3,058,000.

Fiscal year 1958.—The requested amount of $3,200,000 will be applied to:

Initiate road relocation	$300,000
Initiate construction of outlet works	330,000
Continue land acquisition	765,000
Continue railroad relocation	1,500,000
Engineering and design	142,000
Supervision and administration	163,000
Total	3,200,000

The expenditure of these funds is necessary for economical prosecution of the project during the fiscal year.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $17,200,000 is an increase of $1,200,000 over the latest estimate ($16 million) submitted to Congress; $670,000 of this increase is due to higher price levels. The estimates for lands and damages, and relocations have increased $196,000 and $614,0000, respectively, due to reexamination of requirements based on more detailed information. Estimates for engineering and design and supervision and administration have been reduced $252,000 based on experienced cost. Adjustments in estimates for minor features resulted in a decrease of $28,000.

Mr. RABAUT. Last year the justification showed the benefit-cost ratio as 1.8 to 1. I notice it has gone up to 4.7 to 1. Is this entirely due to taking into consideration the 1955 flood?

Colonel PENNEY. Yes.

Mr. RABAUT. What about the damages of that flood?

Colonel PENNEY. The damage that the flood did was tremendous.

Mr. RABAUT. That is why you have a better benefit-to-cost ratio. Does anything else enter into it?

Colonel PENNEY. No. It was the effect of the flood, both directly and indirectly on our computations and the data that were developed as a result of that flood.

Mr. RABAUT. Would you tell us why the estimated cost of this project has gone up from $16 million last year to $17,200,000 this year?

Colonel PENNEY. As we mentioned last year, these estimates were as yet preliminary depending upon the completion of the design. Of this increase, $670,000 was due to higher price levels. The estimates for land and relocations have increased about $196,000 and $614,000 respectively, due to a reexamination of requirements during the detailed planning. There were reductions of $252,000 in supervision and in administration and engineering and design based on experienced costs. There were minor adjustments in other features.

Mr. RABAUT. Is this $17,200,000 firm?

Colonel PENNEY. I think this is much more firm than last year.

Mr. RABAUT. I hope it is.

Colonel PENNEY. Our recent experience in New England on the flood projects that we have just advertised and gotten bids on is tending to reduce the estimated costs, sir.

Mr. RABAUT. The answer is that you think it is pretty firm?

Colonel PENNEY. Yes.

Mr. RABAUT. Tell us why you are recommending a reduction in the 1958 request from $3,200,000 to $2,900,000?

Colonel PENNEY. Although we expect to obligate all the funds, we expect to have about $377,000 unexpended.

Mr. RABAUT. At the end of this fiscal year?

Colonel PENNEY. Yes. This slippage indicates that the fiscal year 1958 request should be decreased by $300,000.

Mr. RABAUT. How much have you spent so far this fiscal year?

Colonel PENNEY. About $500,000 has been spent. We expect to have an unobligated balance at the end of the fiscal year of zero.

Mr. RABAUT. I thought you said you would have a balance at the end of the year.

Colonel PENNEY. It will be obligated but we will not have spent it yet, sir.

Mr. RABAUT. Are you going to be short at the end of next year for the difference?

Colonel PENNEY. No. This was on account of this recent analysis we made of all our projects and we feel we will need the $2,900,000, but that the $300,000 would not be needed.

Mr. RABAUT. Has it occurred to the engineers that there might be a request from the Congress from now on to have such an analysis made annually?

General PERSON. We will do that every year from now on, sir.

Mr. RABAUT. Very good. I hope everybody heard that.

General PERSON. We will do it every year, sir.

ADAMS, MASS.

Mr. RABAUT. We will now take up the Adams, Mass., project, and we will insert in the record at this point pages 52, 53, and 54.

(The pages referred to are as follows:)

ADAMS, MASS.

(Continuing)

Location.—Berkshire County in northwestern Massachusetts, on the Hoosic River about 60 miles above its junction with the Hudson River.

Authorization.—1941 Flood Control Act.

Benefit-cost ratio.—1.20 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$6,000,000	
Estimated non-Federal cost	1,655,000	
Cash contribution	0	
Other costs	1,655,000	
Total estimated project cost	7,655,000	
Appropriations to June 30, 1956	3,304,000	
Appropriations for fiscal year 1957	1,576,000	
Appropriation to date	4,880,000	81
Appropriations requested for fiscal year 1958	1,120,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Concrete walls:
Average height: 14 feet.
Length: 5,100 feet.
Concrete channels:
Average height: 5.5 to 10.0 feet.
Length: 7,500 feet.
Width: 40 to 35 feet.
Earth channels:
Length: 5,500 feet.
Average width: 80 feet.
Levee:
Average height: 14 feet.
Length: 5,400 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Unit 1: Channel excavation, drop structure and stilling basin, paving and concrete walls, and concrete channel in middle portion of project.	100	
Unit 2: Channel excavation, and concrete channel along Tophet Brook	100	
Unit 3: Channel excavation and flood walls downstream of completed work for about 800 feet.	100	
Unit 4: Channel excavation and concrete channel upstream of completed work to upstream limit of project.	57	October 1957.
Unit 5: Channel excavation, levees, flood walls, and check dams, from downstream end of unit 3 to downstream limit of project.	61	December 1957.
Entire project	67	Do.

JUSTIFICATION

The project will provide protection to the town of Adams against Hoosic River floods. Protection will be afforded to the flooded area comprising about 65 percent of the industrial and commercial section and about 15 percent of the residential section of the town. Protection will be afforded to four major industries, 125 commercial establishments, 500 residences, 8 public buildings, public roads, and public utilities and services. During the floods of 1927, 1936, 1938 and 1948, the town suffered flood damages aggregating approximately $5.5 million which could have been prevented had the protective works been constructed. Average annual flood-control benefits are estimated at $403,000. Early completion of the project is essential to prevent serious recurring flood damages. The Commonwealth of Massachusetts and the town of Adams have provided assurance of local cooperation in the entire project and have furnished the lands, easements and rights-of-way necessary for the construction of the project and have expended funds for the required utility relocations and bridge modifications.

Fiscal year 1958.—The requested amount of $1,120,000 will complete the project.

Non-Federal costs.—The initial investment required of local interests in construction of the authorized project is estimated at $1,655,000 broken down as follows:

Lands and damages	$365,000
Relocation of utilities	678,000
Roads, bridges and drainage	612,000
Total	$1,655,000

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $38,700.

Status of local cooperation.—Assurances of local cooperation for the project were executed by the town of Adams and the Commonwealth of Massachusetts on November 22, 1949 and November 21, 1950, respectively. The Commonwealth of Massachusetts has acquired all lands, easements, and rights-of-way required for completion of construction.

Comparison of Federal cost estimate.—The current Federal cost estimate of $6 million is a decrease of $345,000 from the latest estimate ($6,345,000) submitted to Congress. This decrease is due to the receipt of favorable bids for

the construction contracts for units 4 and 5, and reduction of contingencies as the project approaches completion.

BARRE FALLS RESERVOIR

Mr. RABAUT. We will now take up the Barre Falls Reservoir, Mass., and will insert pages 57, 58, and 59 in the record at this point.

(The pages referred to are as follows:)

BARRE FALLS, RESERVOIR, MASS.

(Continuing)

Location.—On the Ware River in the town of Barre, Mass., about 49.8 miles above the confluence of the Chicopee and Connecticut Rivers.

Authorization.—1941 Flood Control Act.

Benefit-cost ratio.—3.5 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$2,060,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	2,060,000	
Appropriations to June 30, 1956	534,000	
Appropriations for fiscal year 1957	1,150,000	
Appropriations to date	1,684,000	77
Appropriations requested for fiscal year 1958	376,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Dam:
Type: Earth and rock fill.
Height: 62 feet.
Length: 885 feet.
Spillway:
Type: Concrete weir and chute.
Capacity: 16,300 cubic feet per second.
Reservoir capacity: Flood control: 24,300 acre-feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Land acquisition	72	Entire project: December 1957.
Relocations	89	Land acquisition: September 1957.
Dam	48	Relocations: March 1957.
		Dam closure: April 1957.

JUSTIFICATION

The proposed Barre Falls Reservoir lies in the Connecticut River Basin. This basin, particularly in the southern portion, is a highly industrialized and densely populated section of New England. Major industrial and population centers are located on the main river and its tributaries and are subject to flood damages.

The 1938 flood, which was basinwide, caused damages amounting to $6,490,000 on the Chicopee River and its tributaries below the dam site. Losses in a flood of 1938 magnitude, under current conditions, would amount to $11,350,000, of which $6,800,000 would be suffered by the industrial plants. The operation of

Barre Falls as a part of a comprehensive reservoir system would prevent $3,750,000 of these damages. Annual flood control benefits for the project are estimated at $332,000.

A system of reservoirs is required to reduce stages of extraordinary floods to authorized grade of levees and flood walls at these downstream cities now having local protection works and thereby provide a high degree of protection for those major industrial centers which have numerous manufacturing plants vital to the national and local economy.

The project is an important unit of the comprehensive plan for flood control and other purposes in the Connecticut River Basin and would operate in conjunction with the local protection works at Chicopee, Springfield, and West Springfield, Mass., and at Hartford and East Hartford, Conn. It has been concurred in by the Commonwealth of Massachusetts and is included in the Connecticut River flood-control compact approved by Congress on June 6, 1953.

Fiscal year 1958.—The requested amount of $376,000 will be applied to:

(*a*) Initiate and complete reservoir clearing	$66,000
(*b*) Complete land acquisition costs	300
(*c*) Complete construction of dam	214,200
(*d*) Complete miscellaneous cleanup work including topsoiling and seeding	4,000
(*e*) Complete construction of access road	29,000
(*f*) Complete installation of permanent operating equipment	14,900
Engineering and design	1,800
Supervision and administration	45,800
Total	376,000

Expenditure of these funds will provide for final completion of the project during the fiscal year.

Non-Federal costs.—There is no requirement of local interests under terms of the project authorization. However, the lands required for the project are largely owned by the Commonwealth of Massachusetts. The estimated value of the land is $158,000. These lands will be transferred to the Federal Government based on a nominal consideration agreed to by State officials.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2,060,000 is a decrease of $620,000 from the latest estimate ($2,680,000) submitted to Congress. This decrease is due primarily to receipt of a favorable bid for the main dam contract.

BUFFUMVILLE RESERVOIR

Mr. RABAUT. We will now take up the Buffumville Reservoir, Mass., project, and we will insert pages 63, 64, and 65 in the record at this point.

(The pages referred to are as follows:)

BUFFUMVILLE RESERVOIR, MASS.

(Continuing)

Location.—On the Little River, about 1.3 miles above its junction with the French River, in the town of Charlton, Mass., about 5 miles north of Webster, Mass.

Authorization.—Flood Control Act of 1941.

Benefit-cost ratio.—2.9 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$2,900,000	
Estimated non-Federal cost:		
Cash contribution	0	
Other costs	0	
Total estimated project cost	2,900,000	
Appropriations to June 30, 1956	295,000	
Appropriation for fiscal year 1957	[1] 1,388,000	
Appropriations to date	1,683,000	58
Appropriation request for fiscal year 1958	1,217,000	100
Balance to complete after fiscal year 1958	0	

[1] Includes permanent transfer to project of $188,000.

PHYSICAL DATA

Dam:
Type: Rolled-earth fill.
Height: 66 feet.
Length: 3,255 feet.
Spillway:
Type: Concrete overflow uncontrolled weir.
Length: 220 feet.
Capacity: 29,800 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Flood control	11,300
Permanent pool	1,400
Total	12,700

Status (Jan. 1, 1957)

	Percent	Completion schedule
Land acquisition	55	Entire project: June 1958.
Relocations	57	Land acquisition: June 1957.
Dam	12	Relocations: March 1957.
		Water in intake channel: May 1957
		Dam closure: May 1957.

JUSTIFICATION

The project lies in a highly industrialized and densely populated section of southern New England. It is a unit of a comprehensive plan for flood control in the Thames River Basin. Buffumville Reservoir is necessary to provide a substantial degree of flood protection for major industrial centers which have numerous manufacturing plants vital to national defense.

The project will produce major reductions in flood damages at Webster and Dudley, Mass., and Thompson (Grosvenordale), Conn., industrial and business centers on the French River. In addition, flood damages will be materially reduced at damage centers extending from Putnam, Conn., on the Quinebaug River downstream to Norwich, Conn, on the Thames River.

The flood of August 1955 caused damages amounting to $61,680,000 in the Thames River Basin. The Buffumville Reservoir project would have prevented approximately $7,700,000 of these damages if it had been in operation at that time. Annual flood control benefits for the project are estimated at $367,000.

Fiscal year 1958.—The requested amount of $1,217,000 will be applied to:

(*a*) Initiate reservoir clearing	$46,000
(*b*) Initiate and complete construction of access road	1,000
(*c*) Initiate and complete permanent operating facilities and equipment	98,000
(*d*) Complete construction of dam	965,500
Engineering and design	2,600
Supervision and administration	103,900
Total	1,217,000

The expenditure of these funds will provide for final completion of the project during the fiscal year.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2,900,000 is an increase of $80,000 over the latest estimate ($2,820,000) submitted to Congress, based on more detailed design.

Mr. RABAUT. Why are you reducing the 1958 request for this project from $1,217,000 to $1,117,000?

Colonel PENNEY. Based on the status of this work, we find with this request, which will be for completion of money, we could safely reduce the contingencies by $100,000.

EAST BRIMFIELD RESERVOIR

Mr. RABAUT. We will now take up East Brimfield Reservoir, Mass., and will insert pages 69, 70, and 71 in the record at this point.

(The pages referred to are as follows:)

EAST BRIMFIELD RESERVOIR, MASS.

(Continuing)

Location.—On the Quinebaug River in the town of Sturbridge, Mass., 64.5 miles above its confluence with the Shetucket River and 1 mile southwest of the village of Fiskdale.

Authorization.—Flood Control Act of 1941.

Benefit-cost ratio.—1.4 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$7,100,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	7,100,000	
Appropriation to June 30, 1956	210,000	
Appropriation for fiscal year 1957	840,000	
Appropriations to date	1,050,000	15
Appropriation request for fiscal year 1958	1,500,000	36
Balance to complete after fiscal year 1958	4,550,000	

PHYSICAL DATA

Dam:
Type: Earth fill.
Height: 55 feet.
Length: 520 feet.

Spillway:
Type: Chute.
Length: 75 feet crest length.
Capacity, 15,500 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Flood control	28,800
Permanent pool	1,200
Total	30,000

Status (January 1, 1957): Not started.
Completion schedule:
Entire project: June 1959.
Land acquisition: June 1959.
Relocations: November 1958.
Dam closure: August 1958.

JUSTIFICATION

The project lies in a highly industrialized and densely populated section of southern New England. It is a unit in the comprehensive plan for flood control in the Thames River Basin. Construction of the East Brimfield Reservoir is necessary to effect major reduction in flood damages at Sturbridge and Southbridge, Mass., and Putnam, Danielson, Jewett City, and Norwich, Conn., industrial and business centers on the Quinebaug and Thames Rivers.

The flood of August 1955 caused damages amounting to $61,680,000 in the Thames River Basin. The East Brimfield Reservoir project would have prevented $12,370,000 of these damages if it had been in operation at that time. Annual flood-control benefits for the project are estimated at $372,000.

Fiscal year 1958.—The requested amount of $1,500,000 will be applied to—

Initiate local road relocation	$275,000
Initiate construction of outlet works of dam	438,000
Initiate construction of permanent operating facilities	60,000
Continue land acquisition	80,000
Complete State road relocation	381,000
Complete utility relocations	126,000
Engineering and design	17,000
Supervision and administration	123,000
Total	1,500,000

The expenditure of these funds will provide for economical prosecution of the project during the fiscal year.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $7,100,000 is an increase of $1,400,000 over the latest estimate ($5,700,000) submitted to Congress. $234,000 of this increase is due to higher price levels on construction work. Real-estate requirements were increased by $805,000 as an result of extensive development in the area in the interim between the last field appraisal (1949) and recent investigations. An increase of $368,000 is due to reanalysis of requirements for relocations and levees, based on recent field investigations. A reanalysis of requirements for engineering and design and for supervision and administration resulted in a slight reduction ($7,000) in the estimate for this work.

Mr. RABAUT. Two years ago the benefit-cost ratio was 1.1 to 1: last year it was up to 1.9 to 1, and now it is back down to 1.4 to 1. What has happened to make this ratio go up and down like this?

Colonel PENNEY. Mr. Chairman, the 1.9 to 1 was that tentative estimate made just after the flood last year. It was an estimate and it was made on an approximation of the results of the flood. Since that time there has been an increase in the estimated cost of the project on the basis of the detailed design that we have made; and, based on a detailed study during the year of the effect of the flood, the analysis of the data, and the hydrology, we found that the benefits would not be quite as great as had been anticipated.

Mr. RABAUT. Is the effect of the study going to make this project cost more?

Colonel PENNEY. Well——

Mr. RABAUT. It must have done something here to make this reduction in the benefit-cost ratio.

Colonel PENNEY. Actually the cost has increased during the detailed planning; yes.

Mr. RABAUT. How much more detailed planning are you going to do? It might change again?

Colonel PENNEY. No. This is a project on which we feel we have a better cost estimate now and the planning is very well along.

Mr. RABAUT. You feel it is firm now?

Colonel PENNEY. Yes.

Mr. RABAUT. So now we will have a benefit-cost ratio of 1.4 to 1?

Colonel PENNEY. Yes.

Mr. RABAUT. Cost estimates have gone up $1,400,000 since last year mostly because of the additional development in the reservoir since the last field appraisal which the justifications say was in 1949. Why was not there a field appraisal before you asked for construction funds last year?

Colonel PENNEY. This project has been rather dormant since 1949 and then funds were provided in the Urgent Deficiency Act for reinitiation of the planning. By the time we asked for funds last year——

Mr. RABAUT. How did you decide last year that this project was feasible if you did not have an appraisal?

Colonel PENNEY. We had a cost estimate, sir, that was based on field appraisals at the time back in 1949. During the detailed planning there were more investigations made and it was found there had been some developments in the area in that interim.

Mr. RABAUT. In this case here you had your appraisals back in 1949?

Colonel PENNEY. That is right.

HODGES VILLAGE RESERVOIR

Mr. RABAUT. If there are no questions from other members we will go on to the Hodges Village Reservoir, Mass. Insert pages 75, 76, and 77 in the record.

(The pages referred to are as follows:)

HODGES VILLAGE RESERVOIR, MASS.

(Continuing)

Location.—On the French River 16 miles above its confluence with the Quinebaug River, at Hodges Village, in the town of Oxford, Mass., about 5 miles north of Webster, Mass.

Authorization.—Flood Control Act of 1941.

Benefit-cost ratio.—1.9 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$5,300,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated Federal cost	5,300,000	
Appropriation to June 30, 1956	120,000	
Appropriation for fiscal year 1957	360,000	
Appropriations to date	480,000	9
Appropriation request for fiscal year 1958	1,860,000	45
Balance to complete after fiscal year 1958	2,960,000	

PHYSICAL DATA

Dam:
Type: Earth fill.
Height: 55 feet.
Length: 2,050 feet.
Spillway:
Type: Channel with low ogee weir.
Length: 145-foot crest.
Capacity: 25,800 cubic feet per second.
Reservoir capacity: Flood control: 12,800 acre-feet.
Status (January 1, 1957): Not started.
Completion schedule:
Entire project: March 1959.
Land acquisition: February 1959.
Relocations: March 1959.
Dam closure: May 1958.

JUSTIFICATION

The project lies in a highly industrialized and densely populated section of southern New England. It is a unit in the comprehensive plan for flood control in the Thames River Basin. Construction of the Hodges Village Reservoir is necessary to effect major reductions in flood damages at Webster and Dudley, Mass., and Thompson (Grosvernordale), Conn., industrial and business centers on the French River. In addition, flood damages will be materially reduced at damage centers extending from Putnam, Conn., on the Quinebaug River, downstream to Norwich, Conn., on the Thames River.

The flood of August 1955, caused damages amounting to $61,680,000 in the Thames River Basin. The Hodges Village Reservoir project would have prevented $9,400,000 of these damages if it had been in operation at that time. Annual flood-control benefits for the project are estimated at $413,000.

Fiscal year 1958.—The requested amount of $1,860,000 will be applied to:

Initiate utility relocation	$10,000
Initiate construction of dam	660,000
Initiate construction of permanent operating facilities	25,000
Continue land acquisition	635,000
Complete railroad relocation	416,000
Engineering and design	27,000
Supervision and administration	87,000
Total	1,860,000

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,300,000 is an increase of $950,000 over the latest estimate ($4,350,000) submitted to Congress: $114,000 of this increase is due to higher price levels. A $477,000 increase in the real-estimate estimate resulted from recent field appraisal. An increase of $350,000 is due to further planning and investigation and is based primarily on revised estimates for relocation costs and minor decreases in other features.

Mr. RABAUT. There is an increase of over 20 percent in the estimated cost of this project since last year. Tell us what occasioned this rather major change.

Colonel PENNEY. This project was in the same status as East Brimfield, and our previous estimates last year were actually based on the situation in 1949 with escalations. We realized they were not completely evaluated until we were able to get this planning money to look into the situation in the reservoir area.

Mr. JENSEN. I note on a number of these projects it says that there is no local participation.

General PERSON. Under the Flood Control Acts, the Federal Government pays all costs for lands and rights-of-way in reservoir areas except where the reservoir is a substitute for levees and flood walls and is in effect a local protection project. Where a reservoir has downstream benefits the law is that we provide the plans and rights-of-way.

COMPARISON WITH SIOUX CITY, IOWA, PROJECT

Mr. JENSEN. I just mentioned the Sioux City situation before we started the hearing.

General PERSON. That is a channel clearing job and is a local project—a local protection job.

Mr. JENSEN. There the city is required to purchase rights-of-way and pay for the grading of bridges to the extent of $1 million. That is a rather small project compared to some of these.

General PERSON. Yes, sir.

Mr. JENSEN. I just want to know whether the same procedure is used all over the country. You follow that procedure precisely every place?

General PERSON. Yes, sir. For example, we have two small reservoirs in New England which are in the omnibus bill on which we recommend local participation in providing lands and rights-of-way for the reason that although they were reservoirs they were a substitute for a local protection project and protected only as individual, readily identified community. Where you have a reservoir that is a flood-control reservoir with downstream benefits, then under existing law there is no local participation.

Mr. JENSEN. Since Congressman Hoeven represents the district in which Sioux City is located and has asked me to inquire just why Sioux City was required to stand this $1 million cost, will you say for the record just why that is?

General PERSON. For the reason that is a local protection project, and under existing Flood Control Acts all local protection projects have requirements for local cooperation in that the local people must provide all lands, easements, and rights-of-way and hold and save the United States free of damages and agree to maintain and operate. That is true throughout the country, sir.

Mr. JENSEN. You do not deviate from that course?

General PERSON. No, sir.

Mr. JENSEN. Not in any place in the country?

General PERSON. Only by specific act of Congress, sir, and in certain projects authorized in the 1938 act, which do not require those elements of local cooperation.

Mr. RABAUT. You are treating them all alike?

General PERSON. We are treating them all alike now, except in a few rare instances where the Congress has decided to establish lesser degrees of cooperation than we have recommended.

Mr. JENSEN. How could the Congress be justified in doing such a thing?

General PERSON. Sir——

Mr. JENSEN. You are not responsible for what the Congress does. Is that your answer?

General PERSON. All we do is recommend and advise, and if the Congress does not agree with our recommendation it is at perfect liberty to act as it sees fit, sir.

Mr. JENSEN. I thought that would be your answer, and it is very good.

Thank you, General.

NORTH ADAMS, MASS.

Mr. RABAUT. The next project is North Adams, Mass. Put pages 81, 81–A, 82, and 83 in the record.

(The information referred to follows:)

NORTH ADAMS, MASS.

(Continuing)

Location.—Berkshire County, Mass., on the North Branch, South Branch, and Hoosic River, about 52 miles above its junction with the Hudson River.

Authorization.—1936 and 1941 Flood Control Acts.

Benefit-cost ratio.—1.19 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$16,200,000	
Estimated non-Federal cost	3,030,000	
Cash contributions	0	
Other costs	3,030,000	
Total estimated project cost	19,230,000	
Appropriations to June 30, 1956	1,933,000	
Appropriations for fiscal year 1957	2,000,000	
Appropriations to date	3,933,000	24
Appropriations requested for fiscal year 1958	3,697,000	47
Balance to complete after fiscal year 1958	8,570,000	

PHYSICAL DATA

Levees:
- Average height: 17 feet.
- Length: 11,300 feet.

Concrete floodwalls:
- Average height: 23 feet.
- Length, 1,870 feet.

Earth channels:
- Length: 17,900 feet.
- Average width: 95 feet.

Concrete channels:
- Length: 10,900 feet.
- Width: 45–80 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Unit 1. Channel excavation, earth levees, concrete walls, drop structure and stilling basin, and concrete channel, on Hoosic River (main stream)	100	
Unit 2. Channel excavation, and concrete channel on Hoosic River (main stream)	100	
Unit 3. Channel excavation, and concrete channel on North and South Branches	51	December 1957.
Unit 4. Channel excavation, concrete channel, concrete walls, excavation of debris basin, and construction of dam on North Branch	0	June 1960.
Unit 5. Channel excavation, concrete channel, and concrete walls, levees, pumping station and dam on South Branch	0	Do.
Unit 6. Channel excavation, levees, concrete walls, dam and stilling basin on the Hoosic River (main stream)	0	Do.
Entire project	17	Do.

JUSTIFICATION

The project will provide protection for the city of North Adams against Hoosic River, North and South Branch floods. Protection will be afforded to the flooded area comprising about 85 percent of the industrial and commercial section, and about 25 percent of the residential section of the entire city. Protection will be afforded to 13 major industries, 570 commercial establishments, 580 residences, 7 public buildings, public roads, and public utilities and services. During the floods of November 1927, March 1936, September 1938, and December 1948, the recurring damages suffered by the city would aggregate about $15.5 million at current prices. These damages would have been prevented had the project been constructed. The average annual benefits for the project are estimated at $963,000. Early completion of the project is essential to prevent recurring flood damages. The project provides flood protection to the Sprague Electric Co. plant, which is engaged in the manufacture of radar, electronic, and other electrical equipment. The firm had extensive Government contracts during World War II, and is now performing research work for the Government which is in a Classified category. The Commonwealth of Massachusetts and the city of North Adams have provided assurances of local cooperation for the entire project and have furnished the lands, easements, and rights-of-way necessary for the construction of the project and have expended funds for the required utility relocations and bridge modifications.

Fiscal year 1958.—The requested amount of $3,697,000 will be applied to—

Unit 3. Complete construction of a concrete channel on the North Branch which was initiated in fiscal year 1956 and continued during fiscal year 1957	$669,600
Unit 4. Initiate construction on the upper reach of the North Branch	500,000
Unit 5. Continue construction on the South Branch which was initiated in fiscal year 1957	1,101,000
Unit 6. Continue construction on the Braytonville section of the channel improvement which was initiated in fiscal year 1957	1,145,400
Engineering and design	21,000
Supervision and administration	260,000
Total	3,697,000

The funds requested for fiscal year 1958 are the minimum necessary to carry on construction of the project at an orderly and economic rate of progress.

Non-Federal costs.—The initial investment required of local interests in construction of the authorized project is estimated at $3,030,000, broken down as follows:

Lands and damages	$490,000
Relocations (utilities and railroad)	750,000
Roads, bridge approaches, bridges, and drainage	1,790,000
Total	3,030,000

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $49,700.

In addition, local interests advise that they have incurred costs of $325,000

for channel clearing prior to initiation of construction of the authorized Federal improvement.

Status of local cooperation.—Assurances of local cooperation for the project were executed by the city of North Adams and the Commonwealth of Massachusetts on December 15, 1949, and November 21, 1950, respectively. Lands, easements, and rights-of-way for the project units are being progressively acquired by the Commonwealth in accordance with the requirements of construction operations. Land acquisition has been completed on units 1 and 2. On Unit 3, which is scheduled for completion of construction in fiscal year 1958, about 90 percent of the land requirement has been met and the remaining rights-of-way will be available by June 1957. Acquisition for units 5 and 6 was initiated in April 1956, and is about 30 percent complete. Rights-of-way for the continuation of construction of units 5 and 6 in fiscal year 1958 and initiation of unit 4 will be acquired during the remainder of this fiscal year and required rights of entry are anticipated by June 1957.

Comparison of Federal cost estimate.—No change from the latest estimate submitted to Congress. However, certain feature estimates have been adjusted within the overall estimate, based on further design, bids received, and the reflection of current unit prices in uncommitted work. Adjustments in estimates for engineering and design and supervision and administration have been made based on a reanalysis of requirements.

Mr. TABER. Why should this project cost so much? The benefits are not very great.

Mr. RABAUT. The benefit-cost ratio is 1.19 to 1.

Mr. TABER. It sounds like a lot of money for that particular job.

Mr. RABAUT. I somewhat agree, but 24 percent of the work is done there.

Mr. TABER. Is done?

Mr. RABAUT. Up to date, 24 percent, and the request for this year brings us up to almost 50 percent. Also there is a non-Federal contribution of about $3,030,000.

Mr. TABER. Yes; those things have to be taken into consideration. Go ahead.

WORCESTER DIVERSION, MASSACHUSETTS

Mr. RABAUT. Next is "Worcester diversion, Massachusetts." Pages 86, 87, and 88 for the record.

(The information referred to follows:)

WORCESTER DIVERSION, MASSACHUSETTS

(Continuing)

Location.—The project will extend from Leesville Pond, three-fourths mile southwest of Worcester, to the Blackstone River, one-half mile southeast of the city, in the towns of Auburn and Millbury, Worcester County.

Authorization.—Flood Control Act of 1944.

Benefit-cost ratio.—2 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$5,670,000	
Estimated non-Federal cost	493,000	
Cash contribution	0	
Other costs	493,000	
Total estimated project cost	6,163,000	
Appropriation to June 30, 1956	130,000	
Appropriation for fiscal year 1957	840,000	
Appropriations to date	970,000	17
Appropriation request for fiscal year 1958	1,500,000	40
Balance to complete after fiscal year 1958	3,200,000	

PHYSICAL DATA

Tunnel:
Type: Circular concrete in earth and concrete-lined circular in rock.
Length: 4,200 feet.
Diameter: 16 feet.
Control dam:
Type: Earth-fill embankment.
Length: 370 feet.
Maximum height: 16 feet.
Spillway: Concrete founded on earth.
Length: 180 feet.
Gates: 2 (5 feet by 5 feet) incorporated in spillway section.
Channel:
Type: Open in rock and earth.
Length: 11,300 feet.
Intake structure:
Type: Semicircular weir.
Radius: 45.5 feet.
Crest elevation: 487.0 feet mean sea level.
Status (January 1, 1957): Not started.
Completion schedule:
Entire project: November 1959.
Tunnel: October 1959.
Channel: November 1959.

JUSTIFICATION

The project will provide almost complete flood control of the upper portion of the Middle River and substantial control of flood flows through the remaining portions of the city of Worcester. The area affected by the project suffered a total of $1,400,000 in damages from the flood of March 1936. Operation of the project at that time would have prevented damages amounting to $1,200,000. In the August 1955 flood the area affected by the project suffered enormous damages to industrial, commercial, residential properties, and public utilities. Operation of the project in a flood of this magnitude would prevent damages amounting to $21,700,000. Annual flood-control benefits for the project are estimated at $475,000.

Fiscal year 1958.—The requested amount of $1,500,000 will be applied to—

Continue construction of channel and tunnel	$1,379,000
Engineering and design	14,000
Supervision and administration	107,000
Total	1,500,000

Expenditure of these funds will provide for the minimum orderly prosecution of construction of the project in accordance with the planned completion date.

Non-Federal costs.—The initial investment required of local interests in construction of the authorized project is estimated at $493,000 for relocation of bridges and utilities and acquisition of lands.

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $17,000.

Status of local cooperation.—Assurances of local cooperation were executed by the Commonwealth of Massachusetts on February 17, 1956, and by the city of Worcester on February 24, 1956. The Commonwealth of Massachusetts will furnish all lands, easements, and rights-of-way for the entire project, and will handle all highway bridge and utility relocations. The city of Worcester will operate and maintain the project after completion.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,670,000 is an increase of $460,000 over the latest estimate ($5,210,000) submitted to Congress. Price level increases amount to $235,000. As a result of more detailed planning, the estimate for channel and tunnel work was increased $356,000, which was partially offset by decreases of $47,000 for relocations and $84,000 for supervision and administration after reevaluation of requirements.

Mr. RABAUT. Why has the benefit-cost ratio gone down from 2.7 to 1 last year to 2 to 1 this year?

Colonel PENNEY. The 2.7 last year again was the tentative ratio right after the flood. There has been a slight cost increase, and a reanalysis of the hydrologic data in this last year has shown that the benefits are a little less than were formerly anticipated.

Mr. RABAUT. Your cost estimate has increased $460,000?

Colonel PENNEY. Yes, sir; that is correct.

Mr. RABAUT. What are we going to get for the $460,000 that we were not going to get before?

Colonel PENNEY. Price level increases are responsible for over half of that, and then in more detailed planning that was required during the year we found that the estimate for the channel and the tunnel work had to be increased by $356,000. There was a decrease in the cost of relocations and supervision and administration.

Mr. RABAUT. Are there any other questions?

Mr. FENTON. When were most of these projects started?

Colonel PENNEY. Sir, this project was authorized in the Flood Control Act of 1944 and construction money was appropriated the first time this current fiscal year—fiscal 1957—and the project is out for bids now for construction.

Mr. FENTON. I take it that most of these projects resulted from the 1955 floods; is that right?

Colonel PENNEY. They were authorized prior to that time, sir, but after the disastrous flood in 1955 there was an urgent deficiency act to get them going in the planning and construction. That was continued through the 1957 appropriation and this is a followup request, sir.

Mr. FENTON. Thank you.

Mr. BOLAND. Would it be possible to move along any faster on this job if more money were appropriated?

Colonel PENNEY. We think not, sir.

Mr. BOLAND. I note that completion of the entire project is scheduled for November 1959. Do you expect to hit that target date?

Colonel PENNEY. Yes, we do, sir.

Mr. BOLAND. This is an important project. Its necessity was shown by the 1955 flood, but back in 1936 they had serious damage there, and they have had lesser floods, but nonetheless serious, between 1936 and 1955. It is an extremely important project. You do not believe that additional funds, above what is requested, would complete it any more rapidly than is scheduled?

Colonel PENNEY. No, sir; we believe this is a sufficient amount for this project.

Mr. BOLAND. That is all, Mr. Chairman.

OTTER BROOK RESERVOIR

Mr. RABAUT. We will take up up Otter Brook Reservoir, N. H., pages 91, 92, and 93 for the record.

(The information referred to follows:)

OTTER BROOK RESERVOIR, N. H.

(Continuing)

Location.—One Otter Brook, 2.4 miles upstream from its junction with the Branch which flows 2.5 miles to the Ashuelot River at Keene, N. H. The junction

of the branch and the Ashuelot is 26.6 miles upstream from the Connecticut River at mile 139.8. The dam site is 2.4 northeast of Keene, N. H.

Authorization.—Flood Control Act of 1954.

Benefit-cost ration.—1.5 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$4,700,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	4,700,000	
Appropriations to June 30, 1956	360,000	
Appropriations for fiscal year 1957	1,250,000	
Appropriations to date	1,610,000	32
Appropriations requested for fiscal year 1958	2,000,000	72
Balance to complete after fiscal year 1958	1,090,000	

PHYSICAL DATA

Dam:

Type: Rolled fill earth.

Height: 133 feet (maximum above streambed).

Length: 1,288 feet.

Spillway:

Type: Uncontrolled concrete ogee weir and chute in rock.

Design capacity (maximum pool): 34,500 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Flood control	17,600
Permanent pool	700
Total	18,300

Status (Jan. 1, 1957)

	Percent	Completion schedule
Land acquisition	55	Entire project: October 1958.
Relocations	10	Land acquisition: September 1957.
Dam	1	Relocations: October 1958.
		Dam closure: May 1957.
		Water in intake channel: May 1957.

JUSTIFICATION

The project is a necessary element of flood control in the Connecticut River Basin and will operate as a unit in a comprehensive plan which provides for construction of both local protective works and reservoirs. Local protective works have been constructed downstream, but are subject to failure in major floods unless flood heights are reduced by more upstream storage. The reservoirs constructed to date do not provide adequate storage. The southern part of the basin constitutes one of the more important industrial areas of the Nation and the output of the area is of major importance in the national and local economy.

The project, in addition to providing flood reductions to damage centers on the Connecticut River, will provide urgently needed flood protection at Keene, N. H., to augment partial protection provided by the existing Surry Mountain Reservoir. Flooding in November 1950 caused damages of $100,000 in Keene, with the Surry Mountain project in operation. Operation of the project would probably be necessary several times each year. Annual flood-control benefits for the project are estimated at $296,000.

The State department of public works and highways has postponed initiation of public works valued at $2,500,000 in an effort to reduce relocation costs which

would result from construction of the project and has induced commercial enterprises not to build in the area.

Fiscal year 1958.—The requested amount of $2 million will be applied to—

Initiate permanent operating facilities and equipment	$12,000
Continue relocation of roads	270,000
Continue construction of dam	1,400,000
Continue reservoir clearing	17,000
Continue construction of access roads	42,000
Complete acquisition of lands	51,400
Complete utility relocation	25,000
Engineering and design	22,600
Supervision and administration	160,000
Total	2,000,000

Expenditure of these funds will provide the minimum economical prosecution of the project during the fiscal year.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $4,700,000 is a decrease of $100,000 from the latest estimate ($4,800,000) submitted to Congress. The decrease is due primarily to receipt of a favorable bid for the main dam contract, together with minor adjustments on other features based on further planning.

Mr. RABAUT. This project is about 30 percent completed and the request this year will bring it to 72 percent. It has a benefit-cost ratio of 1.5 to 1.

WOONSOCKET, R. I.

If there are no questions we will take up Woonsocket, R. I. Put pages 97, 98, and 99 in the record.

(The information referred to follows:)

WOONSOCKET, R. I.

(Continuing)

Location.—The Woonsocket local protection project is to be located on the Blackstone River in the city of Woonsocket, and the town of North Smithfield, R. I., extending from about the Massachusetts-Rhode Island State line to the South Main Street Bridge.

Authorization.—1944 Flood Control Act.

Benefit-cost ratio.—1.8 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$5,000,000	
Estimated non-Federal cost	769,000	
Cash contributions	0	
Other costs	769,000	
Total estimated project cost	5,769,000	
Appropriations to June 30, 1956	275,000	
Appropriation for fiscal year 1957	1,000,000	
Appropriations to date	1,275,000	26
Appropriation request for fiscal year 1958	2,200,000	70
Balance to complete after fiscal year 1958	1,525,000	

PHYSICAL DATA

Dam: Replacement of Woonsocket Falls Dam by new concrete dam 266 feet long equipped with crest gates.
Dike:
Type: Earth fill.
Length: 900 feet.
Maximum height: 9 feet aboveground.
Flood walls:
Type: Concrete.
Length: 400 feet.
Maximum height: 7 feet above ground.
Channel: Improvement of 8,300 feet of river channel.
Relocations:
Railroad bridges, length: 300 feet.
Alteration of highway and foot bridges to be accomplished by local interests.
Pumping plant:
One 18-by-18-foot pumping station.
Two 20-inch, 9,900-gallon-per-second pumps.
Status (Jan. 1, 1957): Initial contract for channel excavation is 98 percent complete.
Completion schedule:
Dam: December 1958.
Channel improvement: December 1958.
Railroad relocation: November 1958.
Levees and flood walls: June 1958.
Pumping plant: June 1958.

JUSTIFICATION

Construction of the project will substantially reduce flood damages in the immediate urban areas. Twenty plants, representing approximately one-half of the industrial properties in the city would be benefited by the reduced flood stage effected by the project. These plants include 10 textile, 2 bulk oil, 2 machine tool, 2 rubber goods, 1 clothing, and 3 fabric-manufacturing establishments.

The flood of March 1936 caused damages amounting to $650,000 in the project area in Woonsocket. It is estimated that these damages would amount to $3,300,000 from a flood of similar magnitude under present conditions and that operation of the Woonsocket project would prevent all of these damages.

The record flood of August 1955 caused enormous damages to industrial, commercial, and residential properties in Woonsocket and to transportation facilities. Operation of the project in a flood of August 1955 magnitude would prevent damages amounting to $8,980,000. Annual flood-control benefits are estimated at $416,000.

Fiscal year 1958.—The requested amount of $2,200,000 will be applied to—

Initiate railroad bridge relocation	$425,000
Initiate and complete levee and floodwall construction	130,000
Continue construction of crest gated dam	200,000
Continue channel improvement	1,158,000
Continue pumping plant construction	95,000
Engineering and design	18,000
Supervision and administration	174,000
Total	2,200,000

Expenditure of these funds will provide for continuation of an orderly program for construction of the project.

Non-Federal cost.—The initial investment required of local interests in construction of the project is estimated at $769,000 broken down as follows:

Temporary water supply for industrial plants	20,000
Alteration of bridges, sewers, and drains	558,000
Lands and damages	191,000
Total	769,000

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $20,000.

Status of local cooperation.—Formal assurances of local cooperation were accepted from the city of Woonsocket and the town of North Smithfield, R. I. on April 23, 1956, and November 14, 1956. Assurances were received from the State of Rhode Island on January 18, 1956. Necessary lands have been acquired for the initial contract, which is currently in progress. Negotiations for necessary lands for the remainder of project are in process and it is anticipated all lands will be made available as required. The designs of highway and sewer line relocations are being effected by local interests, and actual relocation will be coordinated with the Federal construction contract.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5 million is an increase of $569,000 over the latest estimate ($4,431,000), submitted to Congress. Based on further detailed planning, the estimated cost for dam construction and channel improvement work was increased by $588,000, which was partially offset, by a reduction in cost for the pumping plant and levee and floodwall construction totaling $120,000. In addition, the estimated cost for engineering and design and supervision and administration was increased $101,000 based on a reanalysis of requirements.

Mr. RABAUT. Last year, the benefit-cost ratio was set at 2.2 to 1. Why has it gone down to 1.8 to 1?

Colonel PENNEY. Sir, there has been a cost increase here, and there has been a slight reduction in benefits based on a detailed study during the past year following the flood.

It is still a very well-justified project, sir.

Mr. RABAUT. The increase of $588,000 in the estimated cost for dam construction and channel improvement is an increase of over 20 percent for these features. What occasions that?

Colonel PENNEY. Mr. Chairman, that was based on some new boring data that was taken during the planning during the year and more detailed estimates of quantities and unit costs.

Mr. RABAUT. Much as we hate to say it, we can't help but note that General Fleming was not quite right last year when he told the committee that cost estimates for this project "are accurate now within 1, 2, or 3 percent."

Colonel PENNEY. No, sir, he was not. That was an off-the-cuff estimate, sir. It was not quite that close.

Mr. RABAUT. When you keep it down to 3 percent, you usually are not giving it off the cuff.

Colonel PENNEY. There has been a little more increase than that, sir.

Mr. RABAUT. From the schedule in the justifications it appears that the completion of this project has not been speeded up any by appropriating more funds than were requested in the budget last year. In fact, the completion date you estimate this year is a month later than last year's estimate. How much of the $1,021,000 available in 1957 has been obligated so far?

Colonel PENNEY. Our unobligated balance as of March 1 was about $800,000. However, we expect to obligate that by the end of the fiscal year. The main contract was advertised on the 22d of April and will be opened in May. The work at the downstream end of the channel under an initial contract was completed on the 28th of February.

REDUCTION IN REQUEST

Mr. RABAUT. Have you any comment to make regarding your recommendation that the request for 1958 be reduced from $2.2 million to $1,750,000?

Colonel PENNEY. Our comment on that, sir, is that that was done in this analysis in an attempt to avoid large carryovers. Although we expect to award this main contract, there will be a substantial unexpended balance due to our inability to award quite as soon as we had hoped. Therefore, we feel that the reduced amount, reduced by $450,000, would be the amount that we could use next year without expectation of possibly carrying over.

Mr. RABAUT. Are there any questions about this Rhode Island project?

Mr. FOGARTY. Yes, Mr. Chairman.

I did not quite get the explanation you have just given for the reduced amount for 1958, which you are talking about now.

Colonel PENNEY. Mr. Fogarty, we reduced the amount for the fiscal 1958 request by $450,000 because we expect to have an unexpended balance of something like $600,000 or $650,000.

Mr. FOGARTY. For this project?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. What did you anticipate you would spend originally in 1958?

Colonel PENNEY. Our original request was $2.2 million.

Mr. FOGARTY. Now what is your revised request?

Colonel PENNEY. $1,750,000, sir.

Mr. FOGARTY. Now tell us why you gave us that.

Colonel PENNEY. Because of the fact that the completion of the planning of this project took us a little longer than we had hoped, we were not able to award the main contract as soon as we had hoped, resulting in an expected unexpended balance at the end of the year of about $650,000. In order not to carry that over at the end of 1958 we feel that we should reduce the request by $450,000.

Mr. FOGARTY. You mean you are going to have left over on July 1 of this year $600,000-some?

Colonel PENNEY. Unexpended, sir.

Mr. FOGARTY. Of 1957 funds?

Colonel PENNEY. Yes, sir.

REASONS FOR DELAY IN SCHEDULE

Mr. FOGARTY. Why were you not able to complete the plans at an earlier date than you did?

Colonel PENNEY. As you know, sir, the Woonsocket project is a fairly complex engineering problem. It took a lot of detailed planning and coordination. Actually there will be three agencies involved in the construction in that channel, the Corps, the city, and the railroad. What it amounted to was that the time required for this detailed planning, getting the plans and specifications ready, and the coordination required with the city and the railroad just took longer than we had hoped it would, sir.

Mr. FOGARTY. Do you mean to say that the railroad or the city, either one of them, has been dragging its feet on this problem?

Colonel PENNEY. No, sir, not at all. They have not, sir. We just were not able to get it done in spite of every possible action to do it as soon as we had hoped to, sir.

Mr. FOGARTY. Did lack of manpower on your part play some part in the delay?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. There was no way you could hire outside firms to do any of the work that you could not do because of the shortage of manpower?

Colonel PENNEY. We did hire outside firms, sir. We used two architect-engineers on this job.

Mr. FOGARTY. Who were they? Do you know?

Colonel PENNEY. Metcalf & Eddy, and Fay, Spofford & Thorndike, sir.

Mr. FOGARTY. They are two of the largest in New England, are they not?

Colonel PENNEY. Yes.

Mr. FOGARTY. Are they behind in their planning and the work that they were to accomplish?

Colonel PENNEY. I think only by a few weeks in the preparation of the plans and specifications, one of them did not meet the schedule, sir.

Mr. FOGARTY. What delayed you in advertising this contract for bids?

Colonel PENNEY. The completion of the planning and detailed design and plans and specifications.

Mr. FOGARTY. That is what delayed the bid?

Colonel PENNEY. Yes, sir. It is out for bids now. It was advertised on the 22d of April.

Mr. FOGARTY. So you are asking for $1,750,000 for 1958?

Colonel PENNEY. Yes, sir; that is right.

Mr. FOGARTY. That is all you can spend on that project in 1958?

Colonel PENNEY. Yes, sir; that is all we feel we can spend.

Mr. FOGARTY. If you were given any more you could not spend it?

Colonel PENNEY. We would be afraid we would carry it over, sir.

Mr. FOGARTY. When will this project be completed?

Colonel PENNEY. Because of the fact that we were late it has probably slipped several months. It probably will be about in April of fiscal 1959.

Mr. FOGARTY. Will that be before the flood period?

Colonel PENNEY. They have occurred at various times, sir. It will be before an August flood; yes, sir.

Mr. FOGARTY. Are you satisfied with the progress which is being made on this project?

Colonel PENNEY. Sir, I will say that we have done as well as we could. We certainly have done our best. I cannot say we are satisfied when we have not done as well as we had hoped, but I am satisfied we have done as well as we could, sir.

Mr. FOGARTY. Have you any particular problem that Congress could, in any way, help you get straightened away on some of these projects?

Colonel PENNEY. No, sir; I think not.

Mr. FOGARTY. You are just going to go along with the same number of personnel and stay behind in these projects? There is no way to catch up?

Colonel PENNEY. Sir, we have been successful in augmenting the New England Division personnel to some extent this year, and we made extensive use of architect-engineers to the maximum. Now that

this project is advertised and about to start, we feel that the difficult par of the job has been accomplished.

Mr. FOGARTY. Has the contract been let?

Colonel PENNEY. No; it has not, sir.

Mr. FOGARTY. When do you expect the contract to be let?

Colonel PENNEY. It will be opened in late May and it probably will be awarded, subject to receipt of responsive bids, in June.

BULLOCKS COVE

Mr. FOGARTY. What about some of these other projects in Rhode Island like the Bullocks Cove navigation project? What is the status of the Bullocks Cove project? As I understand, that project was delayed because of the difficulty in securing local participation of a couple of towns adjacent to the project; is that right?

Colonel PENNEY. I am informed that you are correct, sir.

Mr. FOGARTY. That is all straightened away now. Has the contract been let? I notice you say the project is scheduled to start in March. Has the contract been let yet?

Colonel PENNEY. I do not know.

Mr. FOGARTY. Will you supply a statement for the record on that?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. If and when the contract will be let and when you expect the job to be completed.

Colonel PENNEY. Yes, sir.

(The requested information follows:)

The jetty contract is to be advertised in May 1957, and the work is scheduled for completion by the end of September 1957. The dredging contract is to be advertised in May 1957, and to be finished by the end of December 1957.

SAKONNET HARBOR

Mr. FOGARTY. What about Sakonnet Harbor? I see the contract was awarded there in November and construction of the breakwater is underway.

Colonel PENNEY. Yes, sir; I am sure that is true.

Mr. FOGARTY. What about the plans and specifications for the dredging operations? What is the status of that?

Colonel PENNEY. I know they were scheduled to be issued in January.

Mr. FOGARTY. Submit a statement for the record of how it stands now and when you expect it to be completed.

Colonel PENNEY. Yes, sir.

(The requested information follows:)

The breakwater is about 85 percent completed; the dredging is about 50 percent completed, and the entire project is expected to be completed in early June 1957.

APPONAUG COVE

Mr. FOGARTY. Now, the Apponaug Cove project, estimated cost $9,500. It is indicated that that survey will be completed this year; is that right?

Colonel PENNEY. Yes, sir. The funds were allocated to it and the survey report is expected to be completed in 1957.

Mr. FOGARTY. Are you up to schedule in your survey of this cove?

Colonel PENNEY. May I furnish that for the record, sir?

(The information referred to follows:)

The survey report is 50 percent completed and is scheduled for submission to the Chief of Engineers in July 1957.

GREENWICH COVE

Mr. FOGARTY. What about Greenwich Cove?

Colonel PENNEY. I would like to furnish that also, sir.

Mr. FOGARTY. If there are any problems in connection with this survey will you put in the record just what the problems are?

Colonel PENNEY. Yes, sir.

(The requested information follows:)

An unfavorable preliminary examination review of reports, recently submitted by the division engineer, is currently being reviewed by the Board of Engineers for Rivers and Harbors. There are no problems in connection with this study.

NEWPORT AND WICKFORD HARBORS

Mr. FOGARTY. And the Newport Harbor? The survey report is expected to be completed in April of 1957.

Colonel PENNEY. That was scheduled, sir, and I will place the status in the record.

(The survey report is 50 percent completed and is scheduled for submission to the Chief of Engineers in July 1957.)

Mr. FOGARTY. What about Wickford Harbor?

Colonel PENNEY. Funds are allocated for completion of that study, sir, which was scheduled to be completed in May, and I will put the status in the record.

(The survey report is 10 percent completed and is scheduled for submission to the Chief of Engineers in October 1957.)

RHODE ISLAND SHORE-PROTECTION STUDIES

Mr. FOGARTY. What about the shore-protection studies for Matunuck and Misquamicut? The State has contributed its total share to this project; is that right? Will you supply for the record a statement on that, as to the progress of the survey and whether or not you are going to meet your completion date?

Colonel PENNEY. Yes, sir; I will.

(Field surveys are completed, and office surveys are about one-third completed. The report is scheduled for submission on September 1957.)

Mr. FOGARTY. Napatree Beach. Do you know the status of this?

Colonel PENNEY. I will put that in the record, sir.

Mr. FOGARTY. Make that a complete statement, please, as to the status of it and what the local problem is.

(The information is as follows:)

The project has been partially built by the town of Westerly. However, the part of the shore which has been improved, although publicly owned, is being privately used. Therefore, it is not expected that any Federal contribution of funds will be requested for this work.

OTHER RHODE ISLAND PROJECTS

Mr. FOGARTY. What about Narragansett pier? Will you do the same there?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. State whether or not the local communities have come up with their part.

Then, Bristol Harbor, Dutch Island Harbor, Intracoastal Waterway, Pawtuxet Cove, Point Judith Harbor, Providence Harbor, and Seekonk River. Will you supply a statement on the status of each of those projects?

Colonel PENNEY. Yes, sir.

(The information referred to is as follows:)

Narragansett pier: No work has been done by the local interests on the Federal project, and no local plans for doing any work are known.

Bristol Harbor: There is an authorized navigation study for Bristol Harbor for which no funds are presently available.

Pawtuxet Cove: No funds available.

Point Judith: No funds available.

Providence Harbor: No funds available.

Seekonk River: No funds available.

HURRICANE SURVEY

Mr. FOGARTY. We get down now to the so-called hurricane survey. We appropriated for this hurricane survey about 2 years ago. Just about the same time the authorization was signed by the President, this committee had voted you $1.5 million, I think. Was that not the original amount?

Colonel PENNEY. I think it was $1 million, sir.

Mr. FOGARTY. I guess the original was $1 million. That would be for fiscal 1956. For fiscal 1957, what did you have available?

Colonel PENNEY. $1.4 million, sir.

Mr. FOGARTY. So, you had $2.4 million for the hurricane survey of this New England area?

Colonel PENNEY. That was for all of the east coast.

Mr. FOGARTY. But with the main emphasis on the New England area which was hit by the hurricane; is that not correct?

Colonel PENNEY. That is correct, sir.

Mr. FOGARTY. So, most of the emphasis is on New England. Bring me up to date now as to the status of these surveys.

Colonel PENNEY. Survey reports have been submitted for 2 areas that were the 2 most severely damaged areas—one Narragansett Bay, including Providence, and the other New Bedford-Fairhaven, sir. Those reports have been referred to the River and Harbor Board.

Mr. FOGARTY. What about the rest of our problem in this area?

Colonel PENNEY. Work is continuing on the rest of the problem, including a report on Stamford Harbor which is expected to be submitted by the division engineer this summer, and then preliminary studies are in progress on other points along the southern coast of New England.

NARRAGANSETT BAY BARRIERS

Mr. FOGARTY. Can you give me any better statement on the progress of these reports than that? I am, of course, especially interested

in the area that I represent, the southern Rhode Island and Narragansett Bay area, and the New Bedford-Fairhaven area, too. You have in the New Bedford-Fairhaven and Providence upper-bay proposed barriers which I have been told are nearly identical projects. Is that a fair statement?

Colonel PENNEY. Yes, sir; they are very similar.

Mr. FOGARTY. And they cost about the same?

Colonel PENNEY. Yes, sir; that is correct; the estimated cost.

Mr. FOGARTY. The report has been turned in to the River and Harbor Board?

Colonel PENNEY. That is correct.

Mr. FOGARTY. Will the River and Harbor Board act on the survey report in time to get this project in the pending authorization bill before Congress?

Colonel PENNEY. Sir, it is scheduled, under a tentative schedule, to be considered by the River and Harbor Board in May. The processing of a report subsequent to the River and Harbor Board hearings and consideration normally takes 4 or 5 months. It would be doubtful, sir, whether these reports would reach Congress for consideration at this session.

Mr. FOGARTY. How often does the River and Harbor Board meet?

Colonel PENNEY. They meet every other month, usually, sir.

Mr. FOGARTY. Why do they not meet every month?

Colonel PENNEY. It is made up of division engineers who come from all over the country. In the interim the staff of the Board, the engineers, review reports that have been submitted to the River and Harbor Board for consideration and furnish the results of that review to these River and Harbor Board members, which takes some effort.

Mr. FOGARTY. When did the Board last meet, then? March?

General PERSON. Yes, the last meeting was the meeting in March, sir.

Mr. FOGARTY. Is there any good reason why this report was not submitted to the last meeting?

Colonel PENNEY. Yes, sir. It was not transmitted to the Board for consideration until about the middle of March, sir.

REASONS FOR DELAY IN SURVEY REPORT

Mr. FOGARTY. So it took you a little over a year and a half to make this survey, a year and 9 months?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. Is that not a little long for a survey like this or is that standard?

Colonel PENNEY. For this project we admit it took longer than originally estimated, but we believe that when we consider the complexity of the problem we did it in the shortest practicable time. We admit we did it slower than we had originally estimated.

Mr. FOGARTY. When did you originally estimate that this report would be ready?

Colonel PENNEY. At the end of September 1956 was our original estimate, sir.

Mr. FOGARTY. So you are about 6 months behind your original estimate?

Colonel PENNEY. Yes, sir. That was the estimate of when the division engineer would submit his report. He actually submitted it toward the end of February 1957.

Mr. FOGARTY. Nearly 6 months. Would it have made any difference if Congress had voted you any more funds for this purpose?

Colonel PENNEY. No, sir.

Mr. FOGARTY. It would not have?

Colonel PENNEY. No, sir. That was not the problem.

Mr. FOGARTY. What was the problem?

Colonel PENNEY. This study is in a new field of considerable complexity. It depended on a lot of original research. We had to get a lot of this research among the corps agencies and other agencies. We found that this required extensive coordination and that it took longer than the original estimate. For example——

Mr. FOGARTY. There is not much we can do about that now, anyway, is there?

Colonel PENNEY. It is by the board.

TIMING OF ACTION ON REPORT

Mr. FOGARTY. The report is now before the River and Harbor Board and our problem is trying to get action in Congress this year. I do not know how we are going to do it unless the Board would give projects of this importance some special consideration, or the Public Works Committee of the House either come in with another authorization bill this year or delay action on the one which is pending before the committee at this time. Have you known the Board to move up meetings to take action on projects of high priority?

Colonel PENNEY. Sir, I think actually in this case it is scheduled for the May meeting and I think that is expeditious consideration by the Board. I might say we realize that these two projects are very important projects, and we will certainly expedite to the best of our ability the processing of the report after the Board has acted on it.

Mr. FOGARTY. As I understand it, you have recommended the project favorably, is that correct?

Colonel PENNEY. The division engineer has, sir, that is right, both of these projects.

Mr. FOGARTY. When you say the division engineer, he is your man, is he not?

Colonel PENNEY. He is our man, sir. The River and Harbor Board will review it, and the River and Harbor Board's review would also be considered as a basis for the Chief of Engineers' recommendation.

Mr. FOGARTY. After the recommendation of the River and Harbor Board their recommendation then goes to the Chief of Engineers, is that right?

Colonel PENNEY. That is correct, sir.

Mr. FOGARTY. Then if he recommends it favorably, it is referred to the Bureau of the Budget for review?

Colonel PENNEY. In between that, sir, the Chief of Engineers makes his proposed report based on the River and Harbor Board recommendation and his review of it. Then he sends that proposed report, as required by the law, to the interested States and other Federal agencies so they may comment officially on it. Upon receipt of those

comments they, together with his proposed report, are transmitted to the Bureau of the Budget for its review.

Mr. FOGARTY. Let me raise a hypothetical question. The Board meets in May and May starts tomorrow, does it not?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. Tomorrow is May. Suppose the Board did act by Friday, which is the 3d of May. The Chief of Army Engineers would have that report by Monday, the 6th of May, would he not?

Colonel PENNEY. I do not think it could be quite that soon.

Mr. FOGARTY. What would hold up the transmission of that report from the one office to another here in Washington?

Colonel PENNEY. Theoretically, nothing. The Board prepares its report. Then it sends it over to the Chief of Engineers. The Board is scheduled to meet, I think, on the 21st of May.

Mr. FOGARTY. It is not scheduled until the last of May?

Colonel PENNEY. The 21st, I think, is the tentative date.

Mr. FOGARTY. Have they ever moved up a meeting before to handle an important project, to your knowledge?

Colonel PENNEY. Not to my knowledge have they moved up a meeting, sir.

Mr. FOGARTY. That never has been done to your knowledge?

Colonel PENNEY. Not to my knowledge, sir.

Mr. FOGARTY. When was the last day of their last meeting?

General PERSON. I believe it was March 26, sir. I could check that for the record, but I think that is right.

General BERRIGAN. The last Tuesday in March.

Mr. FOGARTY. When did you say this report arrived?

Colonel PENNEY. On the 26th of February, sir. It was transmitted by the Office of the Chief of Engineers after a preliminary look at it, to the staff of the River and Harbor Board for their initiation of their review.

Mr. FOGARTY. When did it arrive in the hands of the staff of the River and Harbor Board?

Colonel PENNEY. I think it was the 15th of March, in that vicinity, sir.

Mr. FOGARTY. So the Board was in session for 2 weeks and apparently did not do anything about this project?

Colonel PENNEY. They did not do anything about it, sir. There was no opportunity. It takes longer than 2 weeks for the staff to make the proper review of a project.

Mr. FOGARTY. Normally how long does it take?

Colonel PENNEY. Normally, it takes from 2 to 4 months, sir.

Mr. FOGARTY. Even for projects of high priority it takes that amount of time?

Colonel PENNEY. I think by virtue of the fact that it is tentatively scheduled for the May meeting it is indicated that it has been given priority in that review, sir, at the Board.

General BERRIGAN. We also have the report for 30 days in the Board's hands before they come in and act on them.

Mr. FOGARTY. Is there anything which says they cannot act before the 30 days are up?

General BERRIGAN. We give the people in the field 30 days to object to the report, too. This notice of the division engineer——

Mr. FOGARTY. If this report was submitted to the people in the field and within a week you had an answer back that there were no objections from the field, you would not have to wait the 30 days, would you?

General BERRIGAN. Yes, sir. We give notice. All these notices that go out to the public say that if you have any comment you must submit it by such and such date, 30 days from the date of the notice.

Mr. FOGARTY. You just advertise that in the newspapers?

General BERRIGAN. We actually send the Members of the Congress the notice a few days earlier so they have it before it gets to the public. That always allows 30 days for the general public to submit any comments on any report. During that 30-day period the members of the Board who are officers at various places in the country are studying these reports. We meet for only 1 day. We have our minds pretty well made up, but we have to study the reports before we come in to the meeting. Every 2 months they meet for 1 day or 2 days on several reports. That is how the Board operates with the reports submitted them in the field for a 30-day study period while the public has an opportunity to express its views on the report.

Mr. FOGARTY. You see the dilemma in trying to get these projects started. Two years will have gone by and we will not have even made a decision on the report. If Congress adjourns and it is impossible to get through Congress a bill authorizing the construction of these two particular barriers, they will not be authorized until next year. The chances are always better if it can be put in the omnibus bill than it is getting a separate bill passed. The Senate has already acted and the House is now considering the public works bill for rivers and harbors. From what you tell me about the timing on this report, it does not look too favorable to get authorization action this year.

General PERSON. Mr. Fogarty, as you know, after the Board of Engineers for Rivers and Harbors, we have then to get the comments of the States and interested agencies. The Federal agencies and States are given 90 days in which to submit their comments. Following receipt of the comments of the States and Federal agencies, we then send it to the Bureau of the Budget for its comment prior to processing it to Congress.

Mr. FOGARTY. Regarding these two particular barriers, to what States would you send out notices for comments?

General PERSON. Rhode Island and Massachusetts, sir.

Mr. FOGARTY. And what Federal agencies would you request comments from?

General PERSON. It would have to go to the Department of the Interior because of its possible effect on Fish and Wildlife——

Colonel PENNEY. Health, Education, and Welfare——

Mr. RESTALL. And the Navy.

Mr. FOGARTY. Even the Navy? I can see where the Navy might have some question regarding the lower bay barriers that you have under consideration, but I do not think that they would take much time giving you an answer on these two particular barriers because they are almost on shore. That would not interfere with the Navy any up that far; would it?

Colonel PENNEY. Sir, we would ask——

Mr. FOGARTY. Those are the only 3 Federal agencies—Health, Education, and Welfare; Interior, and Navy, and 2 States, Massachusetts and Rhode Island. You would not have to wait 30 days for the States. I think we could almost guarantee you would have an answer back within a week. I would hope, and believe, that these agencies would not take much time on these two barriers. You people, when you submitted your report, must have had a pretty good idea whether it was going to affect marine life, as far as fish and wildlife is concerned, or the health of the area or the activities of the Navy. So that would not take 90 days; would it?

Colonel PENNEY. Sir, we would ask them to submit their reports as expeditiously as possible.

Mr. FOGARTY. You do not think it would take 90 days; do you?

Colonel PENNEY. I do not know whether it would actually take that long or not, sir.

Mr. FOGARTY. If it does, there is something wrong somewhere with those agencies on this type of problem. I can understand the others that you have under consideration taking some time, but not these two which are almost inland.

If the House Committee on Public Works did not come out with their bill until, say, the end of June, would it be possible by that time to get over all this red tape which has to be gone through to get these projects out to where Congress will have an opportunity to do something?

Colonel PENNEY. I doubt it very seriously, sir.

Mr. FOGARTY. What do you think would be the main holdup in the next 2 months' period since it has already been reviewed, apparently, by somebody on the staff of the River and Harbor Board?

Colonel PENNEY. After the Board acts on it, which would be, say, May 21, when it is presently scheduled, the proposed report could be transmitted, say, within a week or 10 days or so at least, I believe, provided they act on it favorably, to the agencies and the States. I think perhaps a month would be a reasonable time for us to get it to them.

Mr. FOGARTY. You know more about the Federal agencies than I do maybe, but I can almost guarantee you it will not take the Department of Health, Education, and Welfare a month to get it back and I know it will not take the States of Rhode Island and Massachusetts a month to get it back. You tell me about the Navy and Interior and why you think it will take them a month.

General PERSON. We are just guessing at what it might take, sir.

Mr. FOGARTY. General, we have a real problem here, as I see it.

General PERSON. Our point is that there are things over which we have no control. Everything over which we have any control will be expedited to the fullest, I assure you, sir.

Mr. FOGARTY. I do not have any control, but I certainly would contact the Secretary of Health, Education, and Welfare and I think within a maximum of a couple of weeks he would reply unless there is some tremendous problem which has not been talked about with your people who have made this report. It seems to me if there were some real problem, you people would have discussed it and talked about it. Do you know of any problem that might exist to affect

marine life or the Navy in those two barriers, or any possibility of any problem coming up?

Colonel PENNEY. I do not know of any, sir.

General BERRIGAN. I think 40 days is about the fastest with all the expediting. We have had reports where everyone has been supporting them, even including pressure on the agencies. I think 40 days after the Board acts is about the best time that it ever has been done.

Mr. FOGARTY. It is conceivable, then, if everything broke right and if the River and Harbor Board and the Chief of Army Engineers and the Bureau of the Budget acted favorably and these reports were received from the 3 Federal agencies and the 2 States, to get the report to Congress by the end of June, if it has been done on previous occasions in 40 days?

General PERSON. That is possible. Of course you realize after the agencies report it still has to go to the Bureau of the Budget and that takes a little time because they have to review it, sir.

Mr. FOGARTY. You do not think they would hold it for 3 or 4 weeks or 6 months, do you?

General PERSON. That might happen, sir. I do not know what would happen.

Mr. FOGARTY. What would you do about it if they did not do anything about it for 6 months? Anything?

General PERSON. No, sir, except to urge them to act expeditiously.

Mr. FOGARTY. I appreciate your position, General, and I will not embarrass you. I would hope that they would not be arbitraary in anything like this.

General PERSON. No, sir; it would not be in any spirit of arbitrariness but I know they have a backlog of reports now on which they are working.

Mr. FOGARTY. You mean they are reviewing a lot of requests. Is that it?

General PERSON. Yes, sir.

Mr. FOGARTY. About the quickest possible time would be about the end of June, would it not?

General PERSON. If everything went exactly right.

BENEFIT-COST RATIO

Mr. FOGARTY. And if you ran into no real complications.

What is the benefit-cost ratio, first of the Providence and then the New Bedford-Fairhaven project?

Colonel PENNEY. Benefit-cost ratio indicated in the division engineer's report for Providence is 2.37 to 1 and for the New Bedford-Fairhaven protection it is 1.4 to 1.

Mr. FOGARTY. Combined they are of real benefit.

Colonel PENNEY. Based on the report they are extremely needed.

Mr. FOGARTY. What is the cost of each one?

Colonel PENNEY. Estimated cost for the Fox Point work——

Mr. FOGARTY. That is Providence.

Colonel PENNEY. Is $16,180,000, and for New Bedford $15,490,000. It is about the same.

Mr. FOGARTY. What are the local interest costs?

Colonel PENNEY. Costs of local interests are estimated, for the Providence project at $320,000, and for the New Bedford-Fairhaven project $1,710,000.

Mr. FOGARTY. What would be the annual benefits?

Colonel PENNEY. Estimated annual benefits for the Providence project amount to $1,733,000, and for the New Bedford project I do not have the figure. It would be substantial, however. I can furnish it for the record.

(The information requested is as follows:)

Average annual benefits for the New Bedford-Fairhaven project are estimated at $987,900.

LOWER BAY BARRIER

Mr. FOGARTY. With regard to the barrier in lower Narragansett Bay you have run into some problems, one having been pollution and the other the effect it would have on the marine life in this area. I understand a study is also being made now by the Department of the Interior on the marine life problem.

Colonel PENNEY. That is right.

Mr. FOGARTY. You also still have a problem with the Navy on the lower bay barrier.

Colonel PENNEY. That is right.

Mr. FOGARTY. So you cannot expect action in this fiscal year anyway?

Colonel PENNEY. They are problems that will have to be resolved on those lower barriers, including those you mentioned, and a question of foundations on one of the barriers that require resolution, sir.

SOUTHERN RHODE ISLAND SHORE PROTECTION PROJECTS

Mr. FOGARTY. What about the shore-protection problems in the southern part of Rhode Island?

Colonel PENNEY. Mr. Restall tells me there are studies just getting underway.

Mr. FOGARTY. Will you supply for the record a complete statement on what you are doing and what you think you can do and what you anticipate doing in that area to protect the shorelines from the hurricanes which have caused so much damage in the past?

Colonel PENNEY. Yes, sir.

(The information requested is as follows:)

The hurricane damage surveys have been completed and high water elevations are being determined on the 35-mile shoreline of Rhode Island west of Narragansett Bay. Study of tidal floods and their frequency based on detailed gage records is in progress and local studies are underway. Information on specific localities follows:

Narragansett Pier.—Conferences have been held with town and State officials and preliminary plans and estimates have been prepared for dikes, revetments, and walls. The 1954 damages were about $2 million, and it appears likely that an economic project can be recommended for the area. This project would be coordinated with the authorized beach-erosion project, local plans for small-boat and fishing facilities, and State plans for reconstruction of United States Route No. 1.

Point Judith Pond and Potter Pond, Narragansett and South Kingston.—Local interests, in conferences, proposed raising the natural barrier beaches to obtain hurricane protection, in coordination with construction of a proposed small bed marina and new highway work. Based on preliminary hydrologic studies and estimates, the damages of about $2,300,000 appear to justify a project. Considerable study of the hydraulics of normal tidal flow into the salt pond and of hurricane surges will be required before project studies can be completed.

Misquamicut.—The barrier beach was swept clean of cottages in both the 1938 and 1954 hurricanes, with over $3 million damages each time. The property owners want to rebuild but are being temporarily restrained by the town. The town desires a public beach development and has requested flood protection of the barrier beach and property on the Salt Pond by a combination of barrier dikes and highway. The State is reconsidering acquisition of a portion of the barrier beach for public use. Conferences have been held with town and State officials and preliminary studies initiated. The prospect of a favorable project is considered doubtful at this time.

Mr. FOGARTY. Is there anything that this committee or Congress can do which could in any way expedite the construction of these barriers or these shore-protection units that you now have under study?

Colonel PENNEY. I don't think so, sir.

Mr. FOGARTY. Is there anything we have not done in the last year or two which could have expedited this report, this survey, or these recommended projects?

Colonel PENNEY. No, sir.

Mr. FOGARTY. You have moved just about as fast as it was humanly possible to move in the direction of establishing these programs of protection for this area?

Colonel PENNEY. Yes, sir.

Mr. FOGARTY. Do you have any other problems in this area which this committee or the Congress might help you solve?

Colonel PENNEY. Not at this time, sir.

Mr. FOGARTY. It is a wide open question for you. I hope you will tell us the truth now. You are not bound by any orders to come down here and say just this or that. That is an invitation to you to tell the committee what is needed if you are in need of something. I hope you give us an honest answer now.

Colonel PENNEY. I will try to, sir.

We recognize the urgent need for flood control in New England and the need for protection against hurricane flooding as well. We hope that through these studies we will be able to recommend solutions for consideration of the Congress, and if we are able to do that then Congress may act on those recommendations.

Mr. FOGARTY. Sometimes we wonder whether we get all of the projects that you people think are economically feasible and could be supported. Sometimes I think you are given orders and as a soldier you take them. I don't know as much about the Army engineers as I do some other Federal agencies, but I do know that they have a ceiling as far as Federal appropriations are concerned, and sometimes they are told that under this ceiling it is impossible to go ahead with some of these worthwhile projects.

I know it is the policy of this administration at the present time to curtail construction wherever they can, even though continuance might save the Federal Government money.

In the other Subcommittee on Appropriations on which I serve that has been the case. I am not saying that is true about any of your projects but that has happened in the Government before, and I suppose it can happen again.

Are there any additional projects that you think ought to be underway now, any new surveys or any new money which should be granted to make surveys now of this area?

Colonel PENNEY. Sir, we feel there are not. There are many projects countrywide——

Mr. FOGARTY. Is there anybody in the room who can?

General PERSON. I think the items in the budget before the committee represent a well-balanced program, sir.

Mr. FOGARTY. General, I would expect you to say thats because you have been told to say that.

General PERSON. That is not the case, sir. I am saying that from conviction, sir.

Mr. FOGARTY. You would say it, anyway?

General PERSON. No, I would not, sir.

Mr. FOGARTY. Unless you were asked specifically a leading question. I know most of you people are pretty well trained when you come up before the Appropriations Committee to justify what is in the budget. Sometimes witnesses appear here and justify things that they do not think are right, but they have been told what to do. I will not accuse you of that certainly, but I do know that some people appear before these committees under orders and sometimes there are pretty good dress rehearsals that go on before they appear. I am not talking about you necessarily but witnesses of Federal agencies in general.

I am just trying to lead you now to see if there is anything we can do to help the Army engineers. I am for you and I want to see this work proceed and I want to be sure I am doing whatever I can as a member of this committee to see to it that the work is carried on, and if there is anything lacking I would hope you would tell the committee. You are satisfied with everything.

General PERSON. I would say, sir, as far as the New England projects are concerned, that the amounts in the budget are good amounts. They are well tailored to our capabilities and they represent a sound schedule from an engineering viewpoint. Money has not been our problem in New England, sir.

Mr. FOGARTY. No. I think we have been fairly good to you in that respect so far as these surveys are concerned. We gave you $400,000 more for this work than you asked for in this fiscal year.

General PERSON. That is correct, sir. Congress has been very fair to my home country of New England, sir.

Mr. FOGARTY. I guess I have covered as much ground as I can think of.

Mr. EVINS. It should be said, Mr. Chairman, as a matter of record, that New England has two very able members on this committee, able, outstanding and diligent. John Fogarty as well as Ed Boland have been most diligent in looking after the interests of the people in that area. I have always found them most alert as to their needs not only in the regular budget but in supplemental budgets.

Mr. FOGARTY. Thank you for the compliments, but you know that all of these little projects that we have in New England would be just a drop in the bucket so far as the cost of the St. Lawrence seaway project, and some of the other projects throughout the country, are concerned. You can add them all up together and it would not equal one good project in some other sections of the country.

Mr. EVINS. There are some larger. I was looking over the total budget by basins and I am all for all the protection the Corps of Engineers can provide for New England.

There is not as large an amount for New England as for some other sections but there is much more under construction. There are 21 construction projects. The dollar amount is not as great but in numbers the construction projects are greater in New England. I suppose that is due to the peculiar problems you have there.

Mr. FOGARTY. But the amount is what counts.

Mr. EVINS. That is right.

Mr. BOLAND. We are in the same position as our distinguished colleague from Tennessee in relation to projects in his area and areas surrounding his home locality. I wish we were able to get large multipurpose dams in New England like those that have been built and are being built in other parts of the country.

There is not a power project in all the dams we have in New England. Is that correct?

Colonel PENNEY. That is right.

Mr. BOLAND. And there is not one where power is feasible. Is there one where power is feasible?

Colonel PENNEY. No, sir.

Mr. BOLAND. We have that difficulty.

Mr. RABAUT. We have 4 or 5 more budgeted projects here. Shall we proceed?

BALL MOUNTAIN RESERVOIR

The next budgeted project is Ball Mountain Reservoir, Vt.

We will insert pages 102, 103, and 104 in the record.

(The information referred to is as follows:)

BALL MOUNTAIN RESERVOIR, VT.

(Continuing)

Location.—On the West River, 29.0 miles above its junction with the Connecticut River at Brattleboro, Vt., and approximately 3 miles north of Jamaica, Vt.

Authorization.—Flood Control Acts of 1944 and 1954.

Benefit-cost ratio.—1.3 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$16,600,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	16,600,000	
Appropriations to June 30, 1956	790,000	
Appropriations for fiscal year 1957	[1] 1,940,000	
Appropriations to date	2,730,000	16
Appropriations request for fiscal year 1958	1,550,000	26
Balance to complete after fiscal year 1958	12,320,000	

[1] Excludes permanent transfer from project of $360,000.

PHYSICAL DATA

Dams:
Type: Rolled fill earth and rock.
Height: 255 feet above stream bed.
Length: 920 feet.
Reservoir capacity: Flood control, 54,600 acre-feet.
Spillway:
Type: Chute.
Capacity: 190,000 cubic feet per second.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Land acquisition	10	Entire project, June 1961.
Roads	58	Land acquisition, June 1958.
Relocations	(1)	Relocations, December 1957.
Dam	(1)	Dam closure, August 1958.

[1] Not started.

JUSTIFICATION

The project will be operated as a unit of a comprehensive system for flood control in the Connecticut River Basin. It is the initial unit of a three-reservoir system on the West River which is a principal flood-producing tributary. Control of the West River is of prime importance in the development of any system of reservoirs for the Connecticut River Basin. Dikes and flood walls have been constructed downstream on the Connecticut River, but the effective grades of these local protective works are predicated on completion of a comprehensive plan of reservoirs. The reservoirs constructed to date do not provide adequate storage. The southern part of the basin constitutes one of the more important industrial areas of the Nation and the output of the area is of major importance in the national and local economy.

The operation of Ball Mountain Reservoir in a major flood such as March 1936 would be particularly effective in reducing peak stages at the major damage centers at Springfield and Hartford. Annual flood-control benefits for the project are estimated at $838,000.

Fiscal year 1958.—The requested amount of $1,550,000 will be applied to:

(*a*) Continue construction of dam	$1,450,000
(*b*) Supervision and administration	100,000
Total	1,550,000

The expenditure of these funds will provide for minimum economical prosecution of the project during the fiscal year.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—No change from the latest estimate submitted to Congress. The current cost estimate is for an earth and rock fill dam, however, as compared to an estimate for a concrete arch dam presented last year. Further enginering studies indicated that foundation conditions in the left abutment were such as to make a concrete dam impracticable. This has resulted in a number of changes in feature estimates within the overall total.

Mr. RABAUT. I notice there has been a $360,000 permanent transfer from this project and you estimate an unobligated balance of $666,000 will remain at the end of the year, and on top of that you are recommending that the 1958 request be reduced from $1,550,000 to $1,300,000. What has happened to this project?

Colonel PENNEY. Mr. Chairman, the carryover of the $667,000, plus the transfer from the project during the year of $360,000, is due to the change that we reported at hearings last year of having to shift from a concrete to an earth dam upon finding a faulty abutment.

Mr. RABAUT. Enlarge on that in the record.

Colonel PENNEY. Yes, sir.

(The information requested is as follows:)

The shift in type of dam will result in considerable economies. Delay in award of the contract for construction of the dam from March to May 1957 is expected to further reduce requirements for expenditure in fiscal year 1957 by an additional $250,000. The amount requested for fiscal year 1958 has been reduced by this amount.

Mr. RABAUT. Last year you estimated that the entire project would be completed by February 1960. Now the estimate is June 1961, almost a year and a half later. Is this revision of the schedule explained by the same things that are holding up obligation of your 1957 funds?

Colonel PENNEY. That is essentially correct, sir.

NORTH HARTLAND RESERVOIR

Mr. RABAUT. If there are no other questions on Ball Mountain we will take up North Hartland Reservoir, Vt. Pages 108, 109, and 110 will be inserted in the record.

(The information referred to is as follows:)

NORTH HARTLAND RESERVOIR, VT.

(New)

Location.—On the Ottauquechee River in the town of Hartland, Vt., about 1.4 miles above the confluence with the Connecticut River.

Authorization.—Flood Control Act of 1941.

Benefit-cost ratio.—1.5 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$11,800,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	11,800,000	
Appropriations to June 30, 1956	169,000	
Appropriation for fiscal year 1957	[1] 97,000	
Appropriations to date	266,000	2
Appropriations requested for fiscal year 1958	1,000,000	11
Balance to complete after fiscal year 1958	10,534,000	

[1] Excludes permanent transfer from project of $203,000.

PHYSICAL DATA

Dam:

Type: Earth fill.

Height: 185 feet.

Length: 1,520 feet.

Reservoir capacity:	*Acre-feet*
Flood control	70,890
Operating pool	530
Total	71,420

Spillway:
Type: Side channel.
Capacity: 159,900 cubic feet per second.
Crest length: 450 feet.
Status (January 1, 1957): New start.
Completion schedule:
Entire project: November 1960.
Land acquisition: June 1959.
Relocations: October 1959.
Dam closure: May 1959.

JUSTIFICATION

The project is a necessary element of flood control in the Connecticut River Basin and will operate as a unit in a comprehensive plan which provides for construction of both local protective works and reservoirs. Local protective works have been constructed downstream, but are subject to failure in major floods unless flood heights are reduced by more upstream storage. Completion of the comprehensive plan is necessary to reduce the flood stage of the design flood to the design grade of local protective works. The southern part of the basin constitutes one of the more important industrial areas of the Nation and the output of the area is of major importance in the national and local economy.

The provision of storage for control of flood flows on the Ottauquechee River is an essential factor in the development of an effective flood-control plan for the Connecticut River Basin. In the major floods of 1927, 1936, and 1938, the Ottauquechee River contributed from 12 to 16 percent of the total flow in the Connecticut River below White River Junction.

The record flood of March 1936 caused damages of $44,600,000 along the Connecticut River below its confluence with the Ottauquechee River. Operation of North Hartland Reservoir in conjunction with the completed reservoirs would prevent damages estimated at $12,860,000 in a flood of 1936 magnitude under present-day developments. Annual flood-control benefits for the project are estimated at $676,000.

Fiscal year 1958.—The requested amount of $1 million will be applied to:

Initiate land acquisition	$750,000
Initiate construction of dam	157,000
Engineering and design	76,000
Supervision and administration	17,000
Total	1,000,000

Expenditure of these funds will provide for economical prosecution of the project during the fiscal year.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $11,800,000 is an increase of $1,000,000 over the latest estimate ($10,800,000) submitted to Congress. $501,500 of this increase is due to higher price levels. A $433,500 increase in the real estate estimate resulted from recent field appraisal. An increase of $65,000 is due to further planning and investigation and is based primarily on revised estimates for relocation costs and minor adjustments in other features.

Mr. RABAUT. The budget estimate last year was $300,000, which was also the amount appropriated. I see that $203,000 was transferred away from this project as a permanent transfer. What has happened?

Colonel PENNEY. Mr. Chairman, we found that the cost of planning the project was actually less than we had estimated, and the $203,000 was excess to the cost of planning and it has been used elsewhere.

COST INCREASE

Mr. RABAUT. Also I see there has been an increase of $1 million in the estimated cost of the project. Why is it that in New England

there are increased costs, other than just price increases, for such an unusually large number of projects?

Colonel PENNEY. Two reasons generally, sir.

One is that the estimates we gave last year were preliminary and subject to further planning which has now been done, and further planning has in a number of these cases reflected that there have been certain developments that we had not previously considered.

Mr. RABAUT. Are there other questions on this project?

Mr. BOLAND. Is there any opposition on the North Hartland Reservoir?

Colonel PENNEY. To my knowledge I believe there is not.

Mr. BOLAND. Are you experiencing any difficulty with a manufacturing plant that is in this basin?

Colonel PENNEY. There is a mill in the reservoir area, sir, that we propose will be acquired during the acquisition of the project.

Mr. BOLAND. Have you any information on the value of the mill?

Colonel PENNEY. Not at this time.

Mr. BOLAND. Do you know how many employees he has?

Colonel PENNEY. About 230 people.

Mr. BOLAND. Do you know what the plans might be for this particular mill; where it might go?

Colonel PENNEY. I understand that the owner has indicated a desire to relocate in the immediate vicinity, sir.

Mr. BOLAND. There is no opposition from the people in this area to the construction of this reservoir occasioned by the fact that this mill might possibly close down?

Colonel PENNEY. The mill is important, Mr. Boland, to the economy in that general area, and I think it would be important that the mill stay in the vicinity.

Mr. BOLAND. And apparently assurances have been given by those who are the owners that it will stay in the vicinity?

Colonel PENNEY. He has expressed a desire to relocate in the vicinity. There is no formal assurance on that.

Mr. BOLAND. At least there is no opposition to the construction of this reservoir from people in that area that you know of. You have held public hearings up there, have you not, with reference to the establishment of the reservoir?

Colonel PENNEY. Yes, sir.

Mr. BOLAND. There was no opposition to the construction of the reservoir at that time?

Colonel PENNEY. That was some time ago. Now the project is supported by the State and it is included in the compact.

NORTH SPRINGFIELD RESERVOIR

Mr. RABAUT. The next project is North Springfield Reservoir. Pages 114, 115, and 116 will be inserted in the record.

(The information referred to is as follows:)

NORTH SPRINGFIELD RESERVOIR, VT.

(Continuing)

Location.—On the Black River, 8.6 miles above its junction with the Connecticut River, and 3 miles northwest of Springfield, Vt.

Authorization.—Flood Control Act of 1941.

Benefit-cost ratio.—1.2 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$10,800,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	10,800,000	
Appropriation to June 30, 1956	149,000	
Appropriation for fiscal year 1957	500,000	
Appropriations to date	649,000	6
Appropriation request for fiscal year 1958	1,300,000	18
Balance to complete after fiscal year 1958	8,851,000	

PHYSICAL DATA

Dam:
Type: Earth fill.
Height: 118 feet.
Length: 3,800 feet.
Reservoir capacity: Flood control, 50,600 acre-feet.
Spillway:
Type: Side channel.
Capacity: 130,000 cubic feet per second.
Status (January 1, 1957):
Land acquisition: 4 percent.
Relocations: Not started.
Dam: Not started.
Completion schedule:
Entire project: January 1961.
Land acquisition: June 1959.
Relocations: October 1960.
Dam closure: May 1959.

JUSTIFICATION

The project will be operated as a unit of a comprehensive system for flood control in the Connecticut River Basin. It will provide substantial flood reductions at Springfield, Vt., an industrial community on the Black River, which is severely affected by floods. This town is an important unit in the economy of the State of Vermont. In addition, the project is required as part of a reservoir system. Dikes and flood walls have been constructed downstream on the Connecticut River, but the effective grades of these local protective works are predicated on completion of the comprehensive reservoir system. The reservoirs constructed to date do not have adequate storage. The southern portion of the basin constitutes one of the more important industrial areas of the Nation, and the output of the area is of major importance in the national and local economy. Annual flood-control benefits for the project are estimated at $510,600.

Fiscal year 1958.—The requested amount of $1,300,000 will be applied to:

Continue land acquisition	$465,000
Continue construction of dam	645,000
Engineering and design	132,600
Supervision and administration	57,400
Total	1,300,000

Non-Federal cost.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $10,800,000 is an increase of $900,000 over the latest estimate ($9,900,000), submitted to Congress; $478,000 of this increase is due to higher price levels. Real-estate requirements were increased by $447,000, based on a recent evaluation of developments in the reservoir area since the last field appraisal. Adjustments in estimates of other features, based on more complete planning and analysis, resulted in a net decrease of $25,000.

Mr. RABAUT. Last year the justifications showed the height of the dam as 111.5 feet and the length 2,000 feet. This year these figures are 118 feet and 3,800 feet. That is quite a change, especially in the length. What is the reason for these changes?

Colonel PENNEY. The reason is, sir, that we have actually shifted this dam site since last year about four-tenths of a mile downstream.

Mr. RABAUT. It is in a new location?

Colonel PENNEY. Yes.

Mr. RABAUT. Is there an advantage to the new location?

Colonel PENNEY. Yes, sir.

Mr. RABAUT. Moneywise?

Colonel PENNEY. Yes, sir.

Mr. RABAUT. I also notice that, while the size of the dam has been increased, the reservoir capacity is exactly the same, 50,600 acre-feet. What is the explanation of that? Isn't that rather strange?

Colonel PENNEY. That shift was actually upstream, and there was a compensation to produce the same capacity that would be needed.

Mr. RABAUT. Are there any comments you would like to make about the $900,000 increase in the estimated cost of this project?

Colonel PENNEY. Over half of that was on price levels, and the remaining part was based on real estate requirements that we found from a recent evaluation of the developments in the area.

Mr. RABAUT. Do you feel you are being taken in certain places?

Colonel PENNEY. I think not, sir. Of course, in these places we make appraisals and offer the fair market value. If the owner does not desire to settle for that he may go into court for condemnation.

Mr. RABAUT. What percentage of your cases go into court?

Colonel PENNEY. I will supply that information, sir.

(The information requested is as follows:)

Of the 213 tracts included in the recent civil works program for New England, 43 percent were acquired by direct purchase and 57 percent by condemnation. Only 13 percent of the acquisitions required court condemnations because of price disagreements; 44 percent of the acquisitions required condemnation proceedings because of title defects.

Mr. RABAUT. The benefit-cost ratio was only 1.3 to 1 last year and it is down to 1.2 to 1 now. I suppose that is because of the estimated cost increase. Is that right?

Colonel PENNEY. Yes, sir.

Mr. ANDERSEN. How much of the reservoir project in North Springfield has been contracted?

Colonel PENNEY. We have advestised the initial contract on the 10th of April and it will be opened tomorrow. It will be awarded in May. We expect to have an unobligated balance of zero at the end of this fiscal year.

Mr. ANDERSEN. How much has been expended to date?

Colonel PENNEY. Expended as of March 1 approximately $300,000, sir.

Mr. ANDERSEN. Out of a total of $10,800,000. Is that correct?

Colonel PENNEY. Yes, sir.

Mr. ANDERSEN. In other words, you are anticipating that the big bulk of the construction will be done in the ensuing fiscal year?

Colonel PENNEY. That is correct.

Mr. ANDERSEN. If you secure the funds?

Colonel PENNEY. That is correct.

Mr. RABAUT. I notice about $149,000 was spent for planning. Is that right?

Colonel PENNEY. Yes, sir.

Mr. RABAUT. Is that planning on the old site or the new site?

Colonel PENNEY. The $149,000, actually $9,000 of that was on the old site. The $140,000 of that was in the fiscal 1956 urgent deficiency act, and a good part of that has been used in planning on the new site.

Mr. RABAUT. What did you do with the $500,000 you got last year?

Colonel PENNEY. We have initiated acquisition of land, sir, and continued the planning to the point where the initial contract has been advertised this month.

Mr. RABAUT. What caused the change in this location?

Colonel PENNEY. About the most important thing, sir, was that it was found there were a number of houses, about 30 of them, in the spillway area that had occurred since 1940. We found we would cause less disruption by moving the dam upstream.

Mr. RABAUT. What about the cost of real estate?

Colonel PENNEY. We expect it will be a little less upstream, sir.

Mr. RABAUT. Then how do you account for the $900,000 increase?

Colonel PENNEY. Actually the $900,000 increase is based on the old site, and we have just found upon completion of our design memorandum that the new cost will be in the vicinity of $7½ million, a substantial reduction from this $10.8 million, so that next year when we come in with our revised estimate it will be in the vicinity of 7½ to 8 million dollars.

Mr. RABAUT. You will bring the estimated cost down, but the request this year shows a $900,000 increase.

Colonel PENNEY. It is in the total estimated cost, but it did not reflect the estimate we have just completed based on the new site, sir.

TOWNSHEND RESERVOIR

Mr. RABAUT. All right. We will now take up Townshend Reservoir, and pages 120, 121, and 122 will be inserted in the record.

(The information referred to is as follows:)

TOWNSHEND RESERVOIR, VT.

(Continuing)

Location.—On West River, 19.1 miles above its confluence with the Connecticut River and about 1 mile north of Townshend, Vt.

Authorization.—Flood Control Acts of 1944 and 1954.

Benefit-cost ratio.—1.2 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$11,400,000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	11,400,000	
Appropriation to June 30, 1956	211,000	
Appropriation for fiscal year 1957	620,000	
Appropriations to date	831,000	7
Appropriation request for fiscal year 1958	1,200,000	18
Balance to complete after fiscal year 1958	9,369,000	

PHYSICAL DATA

Dam:
Type: Earth fill.
Height: 130 feet.
Length: 1,530 feet.
Reservoir capacity, flood control: 33,900 acre-feet.
Spillway:
Type: Concrete, side channel.
Length: 438.9 feet.
Capacity: 224,000 cubic feet per second.

Status (Jan. 1, 1957):	*Percent*
Land acquisition	3
Relocations	0
Dam	0

Completion schedule:
Entire project: June 1961.
Land acquisition: June 1959.
Relocations: October 1957.
Dam closure: May 1960.

JUSTIFICATION

The project will be operated as a unit of a comprehensive system for flood control in the Connecticut River Basin. It is a unit of a three-reservoir system on the West River which is a major contributor to flood peaks on the lower Connecticut River. Control of the West River is of prime importance in the development of any system of reservoirs for the Connecticut River Basin. Dikes and flood walls have been constructed downstream on the Connecticut River, but the effective grades of these local protective works are predicated on completion of a comprehensive plan of reservoirs. The reservoirs constructed to date do not provide adequate storage. The southern part of the basin constitutes one of the more important industrial areas of the Nation and the output of the area is of major importance in the national and local economy. Annual flood-control benefits for the project are estimated at $502,000.

Fiscal year 1958.—The requested amount of $1,200,000 will be applied to:

Initiate construction of outlet works	$150,000
Initiate and complete utility relocation	54,000
Continue land acquisition	41,300
Complete road relocation	861,000
Engineering and design	13,100
Supervision and administration	80,600
Total	1,200,000

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $11,400,000 is an increase of $600,000 over the latest estimate ($10,800,000) submitted to Congress. Of this increase, $360,000 is for revised road-relocation requirements based on recent field investigations; $190,000 is due to higher

price levels for construction of other features; and $50,000 is for corresponding adjustments in estimates for engineering and design and for supervision and administration.

Mr. RABAUT. Last year the benefit-cost ratio was 1.2 to 1. The estimated cost has gone up $600,000 according to the justifications before us, but I notice that the benefit-cost ratio has not changed. It must just barely be 1.2 at this time.

Is this caused by the benefits estimated at the higher figure and the costs estimated at the higher figure and coming out the same?

Colonel PENNEY. Yes, sir.

Mr. RABAUT. What are the possibilities of the costs going still higher?

Colonel PENNEY. On this project also we have a general design just completed but not yet reviewed. We expect the cost will go down next year.

OPERATION AND MAINTENANCE

Mr. RABAUT. For operation and maintennace, the request is $2,009,600. We will insert pages 125 through 128 in the record.

(The information referred to follows:)

1. Navigation

(a) *Channels and harbors.*—The budget estimate of $1,828,000 provides for essential maintenance work on 8 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of maintaining the navigation channels and harbors and anchorages of coastal harbors and waterways by means of dredging, operation of project structures, and repairing harbor breakwaters; periodic inspections and surveys to determine conditions of the projects for programing purposes and providing navigation interests with adequate information on existing channel conditions; all as authorized in the laws adopting river and harbor projects.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
CONNECTICUT							
Connecticut River below Hartford.	268.5	13.5	255.0	.....	.....	255.0	Dredging.
New Haven Harbor	.....	490.0	2.0	60.0	.....	62.0	Do.
South Port Harbor	.....	.....	.....	.....	40.0	40.0	Breakwater repair.
Stonington Harbor	.....	.....	.....	101.0	.....	101.0	Do.
Thames River	.....	35.0	.....	341.0	.....	341.0	Dredging.
MASSACHUSETTS							
Boston Harbor	6.7	62.5	12.0	50.0	.....	62.0	Dredging and structure repair
Cape Cod Canal	649.1	750.0	591.0	245.0	.....	836.0	Dredging and repair of project facilities.
Plymouth Harbor	.....	.....	.....	.....	101.0	101.0	Breakwater repair.
Project condition surveys	32.5	29.0	4.5	25.5	.....	30.0	
Other projects maintenance periodically.	1,183.2	693.3	.....	.....	.....	.....	
Total channels and harbors	2,140.0	2,073.3	.....	.....	.....	1,828.0	

(*b*) ***Locks, dams, reservoirs, and canals.***—None.

2. *Flood control*

(*a*) *Reservoirs.*—The budget estimate of $178,500 for the operation and maintenance of 9 flood-control reservoirs in the basin provides for the minimum amount necessary for operational requirements, including $22,500 for rehabilitation work of which $17,500 is part of the $5 million provided in the budget for reduction of the backlog of urgently needed maintenance work. This estimate is approximately $33,000 more than the amount available in fiscal year 1957 and is essential for adequate operation and maintenance of the project facilities. The amount requested for maintenance recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required for the day-by-day functioning of the project. Periodic and one-time requirements are indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
CONNECTICUT							
Mansfield Hollow Reservoir	21.4	19.0	21.0	0	0	21.0	
MASSACHUSETTS							
Birch Hill Reservoir	15.4	13.2	15.0	0	0	15.0	
Knightville Reservoir	24.2	16.3	20.0	0	2.0	22.0	Installation of safety fence.
Tully Reservoir	14.2	13.0	15.0	0	0	15.0	
NEW HAMPSHIRE							
Blackwater Reservoir	6.2	5.0	6.0	0	0	6.0	
Edward McDowell Reservoir	17.1	17.5	18.0	0	3.0	21.0	Repair of spillway.
Franklin Falls Reservoir	28.8	25.5	27.0	4.5	0	31.5	Installation of safety fence.
Surry Mountain Reservoir	15.7	22.5	17.0	3.0	0	20.0	Correction of access road hazard.
VERMONT							
Union Village Reservoir	18.8	14.0	17.0	10.0	0	27.0	Repair slide at spillway approach.
Total reservoirs	161.8	146.0	----	----	----	178.5	

(*b*) *Other* (*including channel improvement projects, miscellaneous items, and inspections*).—The budget estimate of $3,100 provides for inspection of 14 completed projects within the basin.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total, fiscal year 1958	Remarks
			Annual	Periodic			
Inspection of completed works	0	2.1	3.1	----	----	3.1	
Total flood control, other	0	2.1	----	----	----	3.1	
Total flood control	161.8	148.1	----	----	----	181.6	
Grand total, New England Basin	2,301.8	2,221.4	----	----	----	2,009.6	

Mr. RABAUT. The request for operation and maintenance for the New England area is less than for 1957 and also less than for 1956. Are there any particular phases of this activity where the needs will be less next year?

Colonel PENNEY. No, sir. Actually this difference reflects a situation where a number of projects which received maintenance in 1956 and other projects in 1957 are projects that do not need maintenance every year. This amount is slightly less.

CAPE COD CANAL

Mr. RABAUT. Over one-third of the entire request for this basin is for one project, the Cape Cod Canal. Would you tell us what is planned to be done with the $836,000 for the project and also what justifies the expenditure of such a large sum on this project every year?

Colonel PENNEY. Sir, the funds will be used for dredging of the project and the repair and operation of project facilities.

Cape Cod Canal is a very important canal which connects Buzzards Bay to Cape Cod Bay, and it has a number of related facilities to it which require maintenance and repair.

Mr. RABAUT. Do you have a lot of silt there, or what is the problem?

Colonel PENNEY. It doesn't require a large amount of dredging every year. Some of the facilities will be repaired with the funds requested this year.

Mr. RABAUT. Who gets the use of that canal?

Colonel PENNEY. The coastal shipping which travels through this waterway to and from northern New England.

Mr. BOLAND. This canal was built by private enterprise some years ago and purchased by the Government. Please supply the tonnage for the record.

Colonel PENNEY. Very well, sir.

(The information requested is as follows:)

The latest information compiled is for calendar year 1955:

Commodity	*Tonnage*	*Commodity*	*Tonnage*
Fruit	318,071	Gypsum and plaster rock	1,486,591
Sugar	178,624	Miscellaneous	4,850,245
Lumber and shingles	162,629		
Coal and coke	3,698,952	Total	13,387,462
Petroleum and petroleum products	2,692,350		

Mr. RABAUT. Colonel Penney, I want to commend you for your knowledge of the area and the knowledge of your projects.

Colonel PENNEY. Thank you very much.

Mr. BOLAND. He is actually not the division engineer there. I was going to compliment him, too, for he certainly has done a good job of giving us detailed information on these projects and deserves special credit since, as I said, he is not the division engineer but is pinch-hitting, so to speak.

May the record also show that New England regrets the fact that General Fleming has left our area because when he came a couple years ago he was faced with the most devastating floods that ever hit the New England area, and the corps did a wonderful job in helping us out under the fine direction of General Fleming.

Of course we welcome Colonel Sibley to the Chief's office in New England, and I am sure, just as happens so often in other sections of the country where division engineers have been transferred and new ones arrive, he will carry on just as well and keep up the fine spirit of the corps. It is a great outfit and we are proud of them.

Mr. RABAUT. We will now adjourn until 10 a. m. tomorrow.

WEDNESDAY, MAY 1, 1957.

MIDDLE ATLANTIC DRAINAGE AREA

GENERAL INVESTIGATIONS

Mr. RABAUT. The committee will come to order.

We will next consider the Middle Atlantic area. The first item is "General investigations," $805,800 for 21 projects. We will put pages 3 through 6 in the record.

(The information referred to is as follows:)

1. Examinations and surveys

(*a*) *Navigation studies.*—The amount of $88,400 is requested for prosecution of 10 studies during fiscal year 1958. This amount will permit completion of 9 reports and progress on 1 other. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Maryland:				
Chesapeake Bay fishing harbors economics study, Maryland and Virginia	$45,000	0	$45,000	0
Severn River, Ringgold Cove	200	0	200	0
New Jersey: Raritan River	26,500	$13,300	6,000	$7,200
New York: New York and New Jersey Channels, N. Y. and N. J.	38,900	17,900	21,000	0
Virginia:				
Aberdeen Creek	8,700	6,700	2,000	0
Appomattox River	5,500	2,900	2,600	0
Back River	3,600	1,800	1,800	0
Jones Creek	3,000	0	3,000	0
Salters Creek	3,000	1,200	1,800	0
Southern Branch Elizabeth River	5,000	0	5,000	0
Total	139,400	43,800	88,400	7,200

(b) *Flood control studies.*—The amount of $148,100 is requested for prosecution of six studies during fiscal year 1958. This amount will permit completion of 1 report and progress on 5 others. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Maryland: Miscellaneous streams, Maryland and Pennsylvania	$75,000	$14,000	$20,000	$41,000
New Jersey:				
Passaic River, N. J. and N. Y.	273,000	213,700	20,000	39,300
Rahway River	40,200	16,400	23,800	0
Pennsylvania:				
Juniata River	187,500	140,000	19,300	28,200
Lackawanna River	133,000	69,200	50,000	13,800
Virginia: Roanoke River, Va. and N. C	35,000	0	15,000	20,000
Total	743,700	453,300	148,100	142,300

(c) *Beach erosion cooperative studies.*—The amount of $4,300 is requested for completion of 2 reports during fiscal year 1958. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
New Jersey:				
Delaware Bay shore	$8,700	$7,200	$1,500	0
Raritan Bay and Sandy Hook Bay	12,500	9,700	2,800	0
Total	21,200	16,900	4,300	0

(d) *Special studies.*—The amount of $565,000 is requested for continuation of three studies during fiscal year 1958. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Delaware River review	[1] $1,609,000	$531,000	$355,000	$723,000
Hudson River siltation study	300,000	100,000	105,000	95,000
Potomac River review	[2] 800,000	0	105,000	695,000
Total	2,709,000	631,000	565,000	1,513,000
Grand total	3,613,300	1,145,000	805,800	1,662,500

[1] Exclusive of $155,000 provided from flood control study funds appropriated in fiscal years 1956 and 1957.
[2] Exclusive of $145,000 provided from flood control study funds appropriated in fiscal years 1956 and 1957.

CHESAPEAKE BAY FISHING HARBORS

Mr. RABAUT. I notice that the study of the Chesapeake Bay fishing harbors, budgeted at $45,000, is described as an "economics study." What do you mean by that?

Colonel RENSHAW. Mr. Chairman, we have about 20 surveys assigned to 3 districts bordering on Chesapeake Bay. The purpose of this study is to gather basic data which, in the end, instead of gathering it for each of the 20 different surveys, we think we will save money by doing it all at one time and then applying the results to the 20 individual surveys.

Mr. RABAUT. What do you mean by this phrase "economics study"? I am quoting a phrase out of the justifications. It is called an economics study of the Chesapeake Bay fishing harbors. What does that mean?

Colonel RENSHAW. The economics study is to determine the economics of the fishing industry in the bay.

Mr. RABAUT. Do you want to enlarge on that a little?

Colonel RENSHAW. I will put it this way. If there is a port of refuge within 10 miles, we would not want to dig another one. We could not find economic justification for another one in that case.

Mr. RABAUT. You are going to map out this area and show what you would like to do in that area?

Colonel RENSHAW. That is right, sir.

Mr. RABAUT. Is this commercial fishing?

Colonel RENSHAW. Yes, sir.

SPECIAL STUDIES

Mr. RABAUT. There are 3 "special studies" set forth on page 6 that account for $565,000 or about 70 percent of the general investigation funds requested for this basin. Now tell us about these studies.

Colonel RENSHAW. The Potomac and Delaware Rivers are 2 of the 3 largest rivers on the Atlantic coast. These are complete comprehensive examinations to develop all the water resources in these valleys. Each of them has a drainage area of over 12,000 square miles. The study of the Hudson River, is a special problem and not a basinwide study.

Mr. RABAUT. This is a siltation study, is it not?

Colonel RENSHAW. That is right.

Mr. RABAUT. On the Hudson the request for 1958 is $105,000; and on the Potomac the request for 1958 is $105,000.

What are these notes at the bottom, (1) and (2)? Note (1) says: "Exclusive of $155,000 provided from flood control study funds appropriated in fiscal year 1956 and fiscal year 1957." Aparently that applies to the total estimated Federal cost of $1,609,000 for the Delaware River review. Has that $155,000 been spent?

Colonel RENSHAW. Yes, sir, that money has been spent.

Mr. RABAUT. So that is to be added to the figure here?

Colonel RENSHAW. Yes. In the past you appropriated for the Northeast flood control studies separately, and these amounts, $155,000 and $145,000, have been incorporated in these particular studies.

Mr. RABAUT. The $145,000 in note (2) applies to the Potomac River review?

Colonel RENSHAW. Yes, sir.

Mr. RABAUT. Are these amounts included in these general figures, or are they over and above them?

Colonel RENSHAW. These are over and above them.

Mr. RABAUT. That is what I thought.

So that while the total cost of the three special studies is shown as $2,709,000, that figure does not include the $155,000 and $145,000 amounts we appropriated for flood control studies in fiscal years 1956 and 1957, as indicated in notes (1) and (2) on page 6 of the justifications?

Colonel RENSHAW. That is correct.

Mr. RABAUT. What has been accomplished by those studies and how do they differ from those you have budgeted for 1958?

Colonel RENSHAW. By the Northeast flood studies?

Mr. RABAUT. Yes.

Colonel RENSHAW. These Northeast flood studies enabled us to go in immediately after the 1955 hurricane and start in making local damage surveys.

Mr. RABAUT. These new ones carry on from that time?

Colonel RENSHAW. Yes, sir.

HUDSON RIVER STUDY

Mr. RABAUT. Do you want to give us something on this siltation study on the Hudson River?

Colonel RENSHAW. There is a rapid rate of shoaling in the main New York channel and in the private berths on the New Jersey side of the Hudson River Channel. The annual dredging, Federal and non-Federal, in that vicinity amounts to about $340,000. In this case local interests want us to try to find out what is causing this rapid rate of shoaling, to try to determine where it is coming from and what to do about it. We plan a model study.

Mr. RABAUT. Will that take a complete study?

Colonel RENSHAW. Yes. The tides in that harbor are pretty complex. We hope to be able to find out more about it.

Mr. RABAUT. How much will you use for that purpose? The total estimated Federal cost is $300,000, and you will use $105,000 this year, and had $100,000 before, and the balance of $95,000 is for the future?

Colonel RENSHAW. Yes, sir.

Mr. RABAUT. You think that is a worthwhile study?

Colonel RENSHAW. Yes, I do, sir.

Mr. RABAUT. All right. Any questions, Doctor?

DELAWARE RIVER STUDY

Mr. FENTON. Yes, very briefly.

The study of the Delaware River is a pretty comprehensive study, as I understand it?

Colonel RENSHAW. Yes, sir.

Mr. FENTON. With the hurricane you spoke about and possible future hurricanes which are apt to cause a lot of deaths in the Pocono Mountain area, I should think a study of that kind ought to be stepped up a little.

Colonel RENSHAW. Yes, sir. You recall last year there was in our budget $100,000 for that study, and local people appeared before you asking that a great deal more be assigned. It ended up that you did appropriate $500,000 to initiate that study last year. We will have expended practically all that total amount by the end of this fiscal year.

Mr. FENTON. You are asking $355,000 for 1958 and there is still a balance of $723,000 for later years?

Colonel RENSHAW. Yes, sir. That is our budget figure.

Mr. FENTON. I do not know if it is feasible to expedite it or not, but I am asking if it could be economically stepped up.

Colonel RENSHAW. From an engineering point of view and without regard to fiscal policies, we could spend up to about $600,000 this year for speeding this project to a conclusion.

Mr. FENTON. The damage done by the hurricane is still fresh in their minds there. It wiped out children's camps and caused the death of many children. I think it is worth inquiring into. You could use up to how much?

Colonel RENSHAW. $600,000, sir.

Mr. FENTON. You still would have $400,000 to $500,000 to go?

Colonel RENSHAW. Yes. That is about as fast as we could go.

Mr. FENTON. When could you complete it?

Colonel RENSHAW. We could complete it in fiscal year 1960.

Mr. FENTON. What about this Juniata and Lackawanna flood-control studies on page 4? Will you put a little statement on each of those in the record?

Colonel RENSHAW. Yes, sir.

(The information requested was furnished as follows:)

Juniata River

A survey report completed in 1948 was returned to the field to be brought up to date. During fiscal year 1958 the feasibility of the Raystown multiple-purpose reservoir will be investigated. The report is expected to be completed with fiscal year 1959 funds. Full consideration will be given to local improvements at Everett, Smithfield township, Huntingdon, Newport, and Hollidaysburg, and other locations in the basin.

Lackawanna River

A previous report is being reviewed in the light of the 1955 flood experience. Local flood-control works supplementing the protection to be afforded by the Stillwater Reservoir are being investigated. These studies are well advanced. During fiscal year 1958, the problem of mine flooding by surface flow in the vicinity of Duryea and at other locations will be investigated in cooperation with the Bureau of Mines.

Mr. FENTON. Coming back to the Delaware River review, is the Schuylkill River included in that? There is a special Schuylkill River study; is there not?

Colonel RENSHAW. Yes. That was approved years ago and that has been completed on the silt removal on the Schuylkill. We still have some flooding problems. That is included in the Delaware study.

Mr. FENTON. I am very anxious to have a report on that situation. I have talked to the Chief of Engineers about that.

(The requested information follows:)

Schuylkill River

The flood of August 1955 caused more than $6 million damages along the upper tributaries of the Schuylkill River. The review investigation for this area was initiated in fiscal year 1957 under the Northeast flood studies. It will be funded in fiscal year 1958 as part of the special studies on the Delaware River. An interim report on local protection for Tamaqua and Norristown is in preparation.

Mr. FENTON. That is all, Mr. Chairman.

Advance Engineering and Design

Mr. Rabaut. We will proceed to "Advance engineering and design," for which $365,000 is requested for three projects.

We will put pages 8 through 15 in the record.

(The information referred to is as follows:)

Bethlehem, Pa.

(Continuation of planning)

Location and description.—The project is located at Bethlehem, Pa., on Lehigh River about 11 miles above its confluence with Delaware River at Easton, Pa., and about 65 miles below Bear Creek Reservoir. The project provides for levees, floodwalls, and pumping stations at Bethlehem.

Authorization.—1946 Flood Control Act.

Benefit-cost ratio.—1.1 to 1 for Lehigh River system.

Summarized financial data

Estimated Federal cost	$8,440,000
Estimated non-Federal cost	1,490,000
Cash contributions	0
Other costs	1,490,000
Total estimated project cost	9,930,000
Preconstruction planning estimate	240,000
Appropriations to June 30, 1957	140,000
Planning allocation for fiscal year 1958	100,000
Balance to complete preconstruction planning after after fiscal year 1958	0

JUSTIFICATION

The Bethlehem local protection project is an integral unit of the Lehigh River Basin plan, consisting of Bear Creek Reservoir, Allentown, and Bethlehem. This project supplemented by upstream reservoir control would provide optimum protection to industrial and commercial establishments located on both sides of the river at Bethlehem, Pa., from floods on the Lehigh River and on Monocacy Creek. The large home plant of the Bethlehem Steel Co. is located within the area to be protected. Of the total benefits accruing to the project, 88 percent are industrial and 8 percent commercial. There are also 20 acres of residences, 15 acres of parks, 18 acres of railroad yards, and several miles of mainline trackage within the area to be protected.

Current estimates of damages from the August 1955 flood indicate that total damages in Bethlehem were approximately $12,575,000. These damages would have been prevented had Bear Creek Reservoir and the local protective works in Bethlehem been in operation.

Non-Federal costs.—The investment required of local interests in construction of the project is estimated at $1,490,000, itemized as follows:

Lands	$55,000
Relocations of road, bridges, and utilities	255,000
Aqueduct and underpass	([1] 46,000)
Pumping plants (intercepting sewer)	850,000
Engineering and design	101,000
Supervision and administration	229,000
Total	1,490,000

[1] Completed.

Local interests are required to maintain and operate the project after its completion. The cost to local interests is estimated to be $47,000 annually.

Status of local cooperation.—The State of Pennsylvania advised the corps by letter dated March 28, 1956, of its intent to participate in the project by assisting the city of Bethlehem in meeting the costs of local cooperation. There is also under consideration a resolution submitted by the city of Bethlehem on November 9, 1956, providing assurance of local cooperation for construction of flood protection on the right bank only. The city has requested deferment of work on the left bank pending further study of proposed plans for redevelopment of a large area along the Lehigh River and on Monocacy Creek which might eliminate the need for left bank protection.

Current studies indicate that construction of the right bank protective works alone would not increase flood damages on the left bank. The decrease in benefits resulting from the elimination of left bank protection corresponds with the reduction in construction cost so there would be no significant change in the project benefit-cost ratio. Consequently, there appears to be no reason to delay the provision of benefits to the right bank area.

Comparison of Federal cost estimate.—The current Federal cost estimate of $8,440,000 is an increase of $290,000 over the latest estimate ($8,150,000) submited to Congress. An incerase of $408,800 is due to higher price levels. A decrase of $72,000 resulted from the reevaluation of estimated costs for supervision and administration and a decrease of $46,000 resulted from deletion of costs for work accomplished by local interests.

Curwensville Reservoir, Pa.

(Initiation of planning)

Location and description.—The project is located on the West Branch of the Susquehanna River about 2.5 miles from Curwensville, Clearfield County, Pa. The project consists of a concrete gravity and earth-fill dam 2,360 feet long, rising 129 feet above the stream bed, with a spillway and gate controlled outlet works. The reservoir will provide 118,500 acre-feet of flood control storage and reduce flood heights in both rural and urban areas, throughout the West Branch below the dam.

Authorization.—1954 Flood Control Act.

Benefit-cost ratio.—1.37 to 1.

Summarized financial data

Estimated Federal cost	$27,300,000
Estimated non-Federal cost	0
Total estimated project cost	27,300,000
Preconstruction planning estimate	400,000
Appropriations to June 30, 1957	0
Planning allocation for fiscal year 1958	50,000
Balance for complete preconstruction planning after fiscal year 1958	350,000

JUSTIFICATION

The project is a unit of the comprehensive plan for flood control on the West Branch, Susquehanna River. Together with the George B. Stevenson Dam (First Fork) constructed by the Commonwealth of Pennsylvania and other dams authorized for construction in the West Branch Basin, it will afford substantial flood protection to towns and rural areas in the West Branch, Susquehanna River Valley, including Clearfield, Renovo, Lock Haven, Jersey Shore, and communities downstream from Williamsport, Pa. Damages from a recurrence of the 1936 flood would be reduced by more than $22,500,000 along the West Branch, and by more than $7,500,000 along the main stem, a total reduction of more than $30 million. Curwensville Reservoir would account for 28 percent of the total reduction. The construction of the Curwensville Reservoir would provide immediate protection to the important community of Clearfield and a larger measure of protection to points downstream.

Non-Federal costs.—None.

Status of local cooperation.—In accordance with the Flood Control Act of 1954, the Water and Power Resources Board, Commonwealth of Pennsylvania, adopted a resolution on May 9, 1956, furnishing assurances to the Federal Government that operation of George B. Stevenson Reservoir will be coordinated with operation of the reservoirs proposed at Curwensville, Kettle Creek, and Blanchard, in order to secure optimum flood control benefits.

George B. Stevenson Reservoir on First Fork Sinnemahoning Creek in Cameron and Potter Counties, Pa., has been constructed by the Commonwealth of Pennsylvania at a first cost of $18,100,000, with estimated annual charges of $684,000, including $30,000 for operation and maintenance.

Comparison of Federal cost estimates.—The current Federal estimate of $27,300,000 (July 1956 prices) reflects an increase of $3,070,000 over the latest estimate submitted to Congress of $24,230,000 (February 1954 prices); $2,498,000 of this increase is due to higher price levels. The estimate for engineering and design was increased by $677,000, and for supervision and administration was reduced by $105,000, based on reevaluation of requirements for these items.

KETTLE CREEK RESERVOIR, PA.

(Continuation of planning)

Location and description.—The project is located on Kettle Creek, about 8.7 miles above its confluence with the West Branch Susquehanna River, which is about 6 miles upstream from Renovo, Pa., and 111 miles above the junction of the West and North Branch Susquehanna River at Sunbury, Pa. The project consists of an earth-fill dam 1,350 feet long, rising 165 feet above the streambed, with a gated outlet tunnel for regulation of flood flows. The spillway would be uncontrolled and located in rock adjacent to the right abutment.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—1.60 to 1.

Summarized financial data

Estimated Federal cost	$17,600,000
Estimated non-Federal cost	0
Total estimated project cost	17,600,000
Preconstruction planning estimate	350,000
Appropriations to June 30, 1957	135,000
Planning allocation for fiscal year 1958	215,000
Balance to complete preconstruction planning after fiscal year 1958	0

JUSTIFICATION

The project is a unit of the comprehensive plan for flood control on the West Branch Susquehanna River. Together with the George B. Stevenson Dam (First Fork) constructed by the Commonwealth of Pennsylvania and other dams authorized for construction in the West Branch Basin, it will afford substantial flood protection to towns and rural areas in the West Branch Susquehanna River Valley, including Renovo, Lock Haven, Jersey Shore, and communities downstream from Williamsport, Pa. Damages from a recurrence of the 1936 flood would be reduced by more than $22,500,000 along the West Branch, and by more than $7,500,000 along the main stem, a total reduction of more than $30 million. Kettle Creek Reservoir would account for 23 percent of the total reduction.

Non-Federal costs.—None.

Status of local cooperation.—In accordance with the Flood Control Act of 1954, the Water and Power Resources Board, Commonwealth of Pennsylvania, adopted a resolution on May 9, 1956, furnishing assurances to the Federal Government that operation of George B. Stevenson Reservoir will be coordinated with operation of the reservoirs proposed at Curwensville, Kettle Creek, and Blanchard, in order to secure optimum flood-control benefits.

George B. Stevenson Reservoir on First Fork Sinnemahoning Creek in Cameron and Potter Counties, Pa., has been constructed by the Commonwealth of Pennsylvania at a first cost of $18,100,000, with estimated annual charges of $684,000, including $30,000 for operation and maintenance.

Comparison of Federal costs.—The current Federal estimate of $17,600,000 (July 1956 prices) reflects an increase of $900,000 over the latest submitted to Congress of $16,700,000 (July 155 prices). The increase is based on the price-level rise.

BETHLEHEM, PA.

Mr. RABAUT. The benefit-cost ratio for the Lehigh River system, of which the Bethlehem project is a unit, has gone from 1.2 to 1 last year to 1.1 to 1 this year. Why is that?

Colonel RENSHAW. Mr. Chairman, subsequent to our submitting the data for the budget we have opened bids on the Bear Creek Dam, the major unit of this system, and we were very fortunate in getting low bids which have altered our project estimate downward considerably, and our benefit-cost ratio now looks more like 1.3 to 1 rather than 1.1 to 1.

Mr. RABAUT. First you had it 1.2 to 1, then 1.1 to 1, and now you think it will be 1.3 to 1?

Colonel RENSHAW. That is correct.

Mr. RABAUT. What made it go down to 1.1 to 1?

Colonel RENSHAW. That was escalating price increases plus a more detailed study of damages.

Mr. RABAUT. Bear Creek Reservoir has now been started. When it is finished, what would the benefit-cost ratio of Bethlehem be if calculated as an individual project?

Colonel RENSHAW. Sir, we have carried this ratio as a system ratio. I do not have that figure. I can supply that.

(Information on separate benefit-cost ratios for the three projects in the system appears on p. 283.)

Mr. RABAUT. Which is the larger, Bethlehem or Bear Creek?

Colonel RENSHAW. Bear Creek is the larger unit. Bethlehem is local protection work.

Mr. RABAUT. The justifications indicate that assurances of local cooperation have not been received and that the city has asked that part of the project be deferred. Tell us about that.

Colonel RENSHAW. The city of Bethlehem is planning a recreational park development on the left bank of the river. Proposed improvements on that bank amount to about one-quarter of the total work. Pending the development of their plans, they have asked us not to go ahead with the work on the left bank. The majority of the damage has occurred on the right bank of the river.

Mr. RABAUT. Are they going to step out of the picture entirely, or will they still cooperate with you on the remainder of the project?

Colonel RENSHAW. They have given us assurances that they will provide the legal assurances for the project, and we have to have that——

Mr. RABAUT. Before you start construction?

Colonel RENSHAW. Yes, sir.

CURWENSVILLE RESERVOIR

Mr. RABAUT. I do not believe we have had a hearing before on the Curwensville Reservoir. Would you tell us a little about this project?

Colonel RENSHAW. Curwensville Reservoir is a unit in the west branch of the Susquehanna River plan. There are four reservoirs in this plan. One has been built by the State of Pennsylvania with its money. The other three are Curwensville, Kettle Creek, and Blanchard, that make up the plan. Curwensville Reservoir is 2½ miles from the town of Curwensville, Clearfield County, Pa.

Mr. RABAUT. Is there any serious local opposition to this plan?

Colonel RENSHAW. No, sir.

Mr. RABAUT. Any grumbling of any kind?

Colonel RENSHAW. Two or three individuals. During a recent field inspection, local citizens appeared eager to have the project built.

CONSTRUCTION

Mr. RABAUT. If there are no additional questions we will go on to construction. This request is $33,802,000 for 14 projects.

SUMMIT BRIDGE

We have Summit Bridge on the inland waterway from Delaware River to Chesapeake Bay. We will put pages 18 through 21 in the record.

(The information referred to is as follows:)

INLAND WATERWAY FROM DELAWARE RIVER TO CHESAPEAKE BAY, DEL. AND MD.

(Continuing)

PART I. SUMMIT BRIDGE

Location.—The project extends from Reedy Point on Delaware River through a land cut to Elk River, thence following Elk River and upper Chesapeake Bay to deep water in Chesapeake Bay, a distance of 46 miles. Part I is the replacement of the existing highway lift bridge at Summit, Del.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—1.27 to 1 for the entire canal improvement authorized by the 1954 River and Harbor Act, of which Summit Bridge replacement is an integral part.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$7,200,000	
Estimated non-Federal cost	4,000	
Local contributions	0	
Other costs	4,000	
Total estimated project cost	7,204,000	
Appropriations to June 30, 1956	195,000	
Appropriations for fiscal year 1957	1,000,000	
Appropriations to date	1,195,000	17
Appropriations requested for fiscal year 1958	1,200,000	33
Balance to complete after fiscal year 1958	4,805,000	

PHYSICAL DATA

Bridge: High-level fixed highway bridge near Summit, Del.
Horizontal clearance: 500 feet.
Vertical clearance: 135 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Excavation, grading, and embankments	2	June 1957.
Piers and abutments	(1)	August 1958.
Superstructure	(1)	September 1959.
Approach roads, paving	(1)	June 1959.
Remove existing bridge	(1)	June 1960.

[1] Not started.

JUSTIFICATION

This waterway connects Delaware River and the port of Philadelphia with Chesapeake Bay and the ports of Baltimore and Norfolk. Oceangoing vessels traveling between Baltimore and Philadelphia formerly were forced to journey by way of Chesapeake Bay, Atlantic Ocean, and Delaware Bay. By using the canal, a saving of 286 nautical miles is realized, nearly a day's vessel travel. Vessels going from Baltimore to New York and points farther east make a smaller but substantial saving in travel. Commercial traffic through the waterway, which has increased each year since 1945, was 9,140,600 tons in 1955.

Reconstruction of Summit Bridge is necessitated by the precarious condition of the existing bridge which is on the highway route between the Chesapeake Bay Bridge to the west and Delaware Memorial Bridge and the New Jersey Turnpike to the east. The existing bridge is not capable of carrying the immediately prospective highway traffic. An adequate bridge is needed to connect these important highway links without interference with navigation. The main piers of the existing bridge, located within the channel limits, are extremely vulnerable to damage or destruction by passing vessels. There have been 12 collisions at the site since January 1938 of which 3 occurred since 1950. The St. Georges and Chesapeake City Bridges were both destroyed as the result of vessel collisions in 1939 and 1942, respectively, and had to be replaced under emergency conditions. In addition, movement of the piers due to foundation conditions has necessitated extensive alterations at a cost of $300,000 during the past 6 years. Collapse of the bridge would halt both navigation and highway traffic.

Fiscal year 1958.—The requested amount of $1,200,000 will be used to continue work on the substructure and the superstructure, which were initiated in fiscal year 1957 by continuing contracts.

Continue pier and abutment construction	$700,000
Continue superstructure fabrication and erection	400,000
Engineering and design	5,000
Supervision and administration	95,000
Total	1,200,000

REMAINING WORK, 1954 MODIFICATION (PART II)

Further work to complete part II of the modification includes:

Dredge channel from Delaware River to Chesapeake Bay, 35 feet deep, and 450 feet wide.

Dredge anchorage in Elk River, 35 feet deep, 1,200 feet wide, and 3,700 feet long.

Replace existing Pennsylvania Railroad bridge and Reedy Point highway bridge.

The estimated Federal cost of the remaining work summarized above is $102,100,000, of which $15,000 was appropriated for advance engineering and design in fiscal year 1956.

COMPLETED MODIFICATIONS

Work completed includes a channel 27 feet deep, 250 feet wide from Delaware River to Elk River and 400 feet wide through Elk River and Chesapeake Bay to Pooles Island; highway bridges at St. Georges and Chesapeake City; extension of jetties at Reedy Point; mooring basin at Chesapeake City; revetment of banks; and construction of bulkheads. The cost of this work is $14,520,000.

REMAINING AUTHORIZED MODIFICATIONS

A further modification in the 1935 River and Harbor Act provides for dredging Delaware City branch channel to 8 feet deep and 50 feet wide with an 8-foot-deep basin. The channel, including the basin, has been dredged from Delaware River to a point 400 feet east of Fifth Street Bridge at a cost of $25,000. Completion of the channel remains to be done. Restudy of this remaining work will be required before it is undertaken.

Non-Federal Costs.—Local interests in complying with the requirements of local cooperation as set forth in the authorizing legislation for the 35-foot channel are required to furnish the rights-of-way for the construction of Summit Bridge. These costs are estimated to be $4,000.

The cost to local interests of complying with the requirements of local cooperation for part II of the project is $6,000, which is required to furnish the right-of-way needed for replacement of Reedy Point Bridge.

Local interests incurred costs of $151,000 in connection with the reconstruction of the St. Georges Bridge. This cost was for payment for rights-of-way.

Local interests also incurred costs of $75,000 for the rights-of-way for reconstruction of the Chesapeake City Bridge.

Status of local cooperation.—The State of Delaware has furnished assurances of compliance with the local cooperation requirements. They have provided rights-of-way for the construction of Summit Bridge, and have agreed to provide connecting highways to this bridge.

Comparison of Federal cost estimate.—The current Federal cost estimate of $7,200,000 is an increase of $1 million over the latest estimate ($6,200,000) submitted to Congress. There has been a $365,000 increase due to higher price levels; a $645,000 increase due to widening of the roadway and flattening of the approach grades to meet current design criteria, and a $10,000 decrease in engineering and design.

Mr. RABAUT. The estimated cost of this project has gone up from $6,200,000 estimated a year ago to $7,200,000 now. The justifications say $645,000 of this increase is "due to widening of the roadway and flattening of the approach grades." This sounds like additional improvements just for the benefit of automobile and truck traffic. Why should this cost be borne by a water-navigation project?

Colonel RENSHAW. Sir, this project is a little unusual in that the Federal Government acquired the project from the canal company. The canal company had been licensed by the State of Delaware. In that license the canal company assumed the obligation of maintaining and continuing the crossings over the canal from then on.

In 1924 the Secretary of War sought an opinion from the Comptroller General and was told we had that obligation to not only supply these crossings but to supply reasonable improvements as traffic required it.

Mr. RABAUT. When was this purchased by the Government?

Colonel RENSHAW. In 1919.

Mr. RABAUT. Should not this obligation really rest with the State or county?

Colonel RENSHAW. Well, sir, there is no real local benefit accruing to the State. Traffic going from Baltimore to Philadelphia or Baltimore to New York just passes through Delaware in this case.

Mr. RABAUT. That is true of many roads. As a matter of fact, they are going around towns and cities now with new roads because in many cases, they are a detriment rather than a benefit to local interests. I think this ought to be called to the attention of the legislative committee.

You have it up to $7,200,000. What caused the new increase?

Colonel RENSHAW. The actual bids have been taken on this project and this is the result of the prices we received.

Mr. RABAUT. What would happen here if we did not do this project? They are getting over it now; are they not?

Colonel RENSHAW. That particular bridge is in pretty bad shape. Two other bridges have been hit by passing vessels and replaced. From the standpoint of national defense it is an important waterway. If we did not reconstruct Summit Bridge, the existing bridge might be again hit by a vessel going through, or it would deteriorate.

Mr. RABAUT. Does the ruling on this call for your widening the roadway?

Colonel RENSHAW. This is to meet the American Association of State Highway Officials standards.

Mr. RABAUT. That is all right, but the point is why should we be paying it? I do not say we should not fix the bridge or put in a new bridge of comparable size, but when it goes beyond that, that should be something for the local interests or somebody else to pay.

Will you supply us with information as to what Congress ought to do if we want to straighten this out? This could go on forever. I am talking about this extra widening and improving bridges for automobiles and trucks. We should let road funds take care of that. Suppose you get us some information on that subject and put it in the record.

Colonel RENSHAW. Yes, sir.

(The following was submitted as an answer to the request:)

The charter for the original canal, granted in 1801 by the State of Delaware, provided that the canal company must build and maintain necessary highway bridges across the waterway. When the Federal Government purchased the canal in 1919, it assumed responsibility for suitable highway bridges as well as their operation and maintenance. The Summit Bridge replacement has been designed in accordance with modern highway standards as published by the American Association of State Highway Officials.

The approach grades are such as to reduce operating difficulties during freezing weather, which would cause traffic tieups at the high-level crossing. The grades will also reduce traffic slowups due to heavy trucks. It is considered that these standards make reasonable provisions in this case for a suitable highway bridge replacement.

Mr. RABAUT. I know this is something you inherited, but I do not think we should be paying for all of it.

Mr. FENTON. May I ask a question there?

Mr. RABAUT. Yes, Doctor.

Mr. FENTON. That part of the project from the Delaware River to the Elk River, is that a canal?

Colonel RENSHAW. From the Delaware River to the Elk River is a canal; yes, sir.

Mr. FENTON. And, of course, the object of having this waterway is a saving of 286 nautical miles going around Cape Charles?

Colonel RENSHAW. Going around Cape Charles; yes.

Mr. FENTON. It is a whole day's saving in vessel travel between Baltimore and Philadelphia?

Colonel RENSHAW. Yes, sir.

Mr. FENTON. Just what have you done this year with the 1957 appropriation?

Colonel RENSHAW. Sir, we have let three contracts for the bridge. There is a slight delay due to the steel strike and slow deliveries, but otherwise we are progressing very nicely.

Mr. FENTON. Of course the chairman has asked you to put some statement in the record, but this is an old project; is it not?

Colonel RENSHAW. Yes, sir.

Mr. FENTON. This Reedy Point Bridge is really being condemned? Is that the one you are talking about?

Colonel RENSHAW. This is the Summit Bridge. In past years we have replaced the Chesapeake and St. Georges Bridges. This is the bridge between the two.

Mr. FENTON. The Reedy Point Bridge is all right?

Colonel RENSHAW. That will have to be replaced as we proceed with enlargement of the Chesapeake and Delaware Canal.

Mr. FENTON. That is all, Mr. Chairman.

DELAWARE RIVER BETWEEN PHILADELPHIA AND TRENTON

Mr. RABAUT. The next project is the Delaware River between Philadelphia and Trenton. We will put pages 25 through 28 in the record.

(The information referred to is as follows:)

DELAWARE RIVER BETWEEN PHILADELPHIA, PA., AND TRENTON, N. J. (INTERIM 35-FOOT CHANNEL)

(Continuing)

Location.—The Delaware River flows in a general southerly direction from southeastern New York to Delaware Bay.

Authorization.—1954 River and Harbor Act.

Benefit to cost ratio.—1.68 to 1 for the interim 35-foot channel.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost (Corps of Engineers)	[1] $62,100,000	
Estimated Federal cost (U. S. Coast Guard)	415,000	
Estimated non-Federal cost	57,000	
Cash contribution	0	
Other costs	57,000	
Total estimated project cost	[1] 62,572,000	
Appropriations to June 30, 1956	100,000	
Appropriations for fiscal year 1957	6,000,000	
Appropriations to date	6,100,000	10
Appropriations requested for fiscal year 1958	9,000,000	24
Balance to complete after fiscal year 1958	47,000,000	

[1] Excludes $50,000,000 for providing a 40-foot channel 400 feet wide from the Philadelphia Naval Base to Newbold Island, of which $42,800,000 applies to the project "Delaware River between Philadelphia, Pa. and Trenton, N. J." and $7,200,000 applies to the project "Delaware River, Philadelphia to the sea."

PHYSICAL DATA

Channels:
Allegheny Avenue to Newbold Island: 35 feet deep and 400 feet wide.
Newbold Island to Trenton: 35 feet deep and 300 feet wide.
Bridge (railroad lift bridge at Delair, N. J.):
Horizontal clearance: 500 feet.
Vertical clearance: 135 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Channels:		
Allegheny Avenue to Newbold Island	2	March 1961.
Newbold Island to Trenton	(1)	February 1962.
Bridge: Reconstruction of Delair Bridge	(1)	April 1960.

[1] Not started.

JUSTIFICATION

Improvement of the navigation facilities of the Delaware River has been one of the principal factors in the industrial and economic growth of the Delaware Valley. Increasing recognition of the strategic location of the Trenton-Philadelphia-Camden area with respect to materials, labor, and markets is resulting in unprecedented industrial expansion in the region. Continuation of the improvements on the Delaware River are necessary to permit more general use of the larger and more efficient vessels currently engaged in foreign and coastwise commerce and provide increased safety for the millions of tons of waterborne commerce transported annually on this waterway. The commerce on the Delaware River between Philadelphia and Trenton has grown from 5.9 million tons in 1949 to 12.4 million tons in 1955, an increase of 110 percent.

The initial phase of channel improvement, which provides for the upstream extension of the existing 35-foot channel from Allegheny Avenue to Trenton, will extend the low cost transportation area in this large commercial region. It will add some 29 miles of deep water channel above Philadelphia and eliminate navigation delays and loading limitations occasioned by the present inadequate depths in this section of the river. The improvement will particularly influence the transportation of raw materials to the major steel mill near Newbold Island, as well as the movement of lumber, chemicals, petroleum and other manufactured products as far up as the port of Trenton. It is estimated that the improved channel will result in savings in transportation costs averaging $5.5 million annually.

Reconstruction of Delair Bridge is necessary to provide safe navigation and adequate clearances for existing vessel traffic and the larger vessels for which the improved channel is designed. The present bridge is a menace to navigation. It is located on a sharp bend and has drawspan clearances of only 122 and 124 feet. Shipping interests now take the larger ships through this bridge only during daylight hours. In view of this restriction and the time element involved in waiting for favorable tides, the existing project is a cause of lengthy delays to shipping.

Fiscal year 1958.—It is proposed to continue work on various items, initiated in fiscal year 1957, as follows:

Continue construction of substructure of Delair Bridge	$1,250,000
Complete dredging, area D–4	2,600,000
Complete dredging, area D–5	2,500,000
Continue dredging, area D–3	1,800,000
Engineering and design	330,000
Supervision and administration	520,000
Total	9,000,000

In addition, fabrication of steel for the superstructure of Delair Bridge will be in progress.

These funds are required for an orderly and economical rate of construction, with completion of the Delair Bridge in fiscal year 1960 and the entire interim improvement in fiscal year 1962, as scheduled.

COMPLETED WORK—DELAWARE RIVER BETWEEN PHILADELPHIA, PA., AND TRENTON, N. J.

Channel 28 feet deep and 300 feet wide from Allegheny Avenue to Delair Bridge, thence 25 feet deep and 300 feet wide to Trenton including auxiliary channels and turning basins at a cost of $5,190,000.

OTHER AUTHORIZED WORK REMAINING TO BE DONE

Providing a channel 40 feet deep and 400 feet wide between the Philadelphia Naval Base and Newbold Island, at a cost of $50 million, of which $42,800,000 applies to the project "Delaware River between Philadelphia, Pa., and Trenton, N. J." and $7,200,000 applies to the project "Delaware River, Philadelphia to the sea." This further improvement is not presently scheduled for accomplishment.

Non-Federal costs.—In connection with the deepening to 35 feet, local interest are required to furnish disposal areas for dredged material, with cost estimated at $57,000.

In addition, private industries bordering on the waterway are now expending more than $1 billion for industrial expansion. There are 38 wharves and piers, including the municipally owned Trenton Marine Terminal. Berthing facilities and equipment for handling coal and iron ore have been constructed at the new $400 million Fairless Works of the United States Steel Corp.

Status of local cooperation.—Assurances of compliance with the requirements of local cooperation from the States of New Jersey and Pennsylvania were accepted on August 6, 1956. The United States Steel Corp. has constructed berthing and materials handling facilities at the Fairless Works. Disposal areas for all dredging sections on which work will be in progress during fiscal year 1957 and 1958 have already been acquired. Negotiations for future disposal areas are continuing, and no difficulties are anticipated.

Comparison of Federal cost estimate.—The current Federal cost estimate of $62,100,000 is an increase of $1,200,000 over the latest estimate ($60,900,000) submitted to Congress. The net change results from an increase of $2 million due to higher price levels, and a reduction of $800,000 due to reevaluation of costs for engineering and design and for supervision and administration, based on experienced costs for projects of this type and magnitude.

Mr. RABAUT. The justifications indicate that the schedule for this project has slowed up a little. Last year the last of the work was estimated to be completed in June 1961. Now the estimate is February 1962. What causes the delay?

Colonel RENSHAW. That is about an 8-month delay, sir, and it is due to difficulty in getting started, mobilization of the various contractors; they have not moved as fast as we thought they would.

Mr. RABAUT. Is there still some serious opposition to this project on the part of some people along the river?

Colonel RENSHAW. There is only one organization in the valley that I believe appeared before you last year and opposed it, but an overwhelming part of the entire eastern Pennsylvania and New Jersey area is for this project.

BENEFICIARIES OF PROJECT

Mr. KIRWAN. Colonel, I think in the past you have testified there was only one known beneficiary of the 40-foot channel and that was the United States Steel.

Colonel RENSHAW. Yes, sir.

Mr. KIRWAN. What now has been added since your testimony last year?

Colonel RENSHAW. We have received information that the Phoenix Iron & Steel Co., a subsidiary of the Barium Steel Corp., are acquiring land and will build a plant and need the same deep water.

Mr. KIRWAN. At this point I would like to put this letter dated April 2, 1957, from the Phoenix Iron & Steel Co. in the record.

Mr. RABAUT. Without objection, it will be placed in the record at this point.

(The letter referred to is as follows:)

PHOENIX IRON & STEEL CO.,
Phoenixville, Pa., April 2, 1957.

Mr. H. G. SCHAD,
Chairman, Joint Executive Committee for the Improvement and Development for the Philadelphia Port Area,
The Bourse, Philadelphia 6, Pa.

DEAR MR. SCHAD: The Phoenix Iron & Steel Co., a subsidiary of the Barium Steel Corp., has been in business since the year 1790. We are presently engaged in the most extensive and costly expansion program in our history. A major portion of this program entails the construction of a completely integrated steel plant along the shores of the Delaware River in the vicinity of Burlington, N. J. This new plant, conceived and to be constructed as a completely integrated operation, will represent a substantial addition to the steelmaking facilities in the Delaware Valley. The initial installation will involve one blast furnace which will be supplemented by the necessary processing facilities and finishing mills in order to turn out products such as steel plate, shapes, seamless tubes, and bars. Our plans call for the installation of two additional blast furnaces so as to utilize an annual ore requirement of 3,600,000 tons.

Our plant is presently in the stage of engineering and design and we expect to move up promptly so that within the next 2 years we shall have an initial iron-ore requirement at the rate of 1,200,000 tons per year.

In our studies which were devoted to choosing a desirable site for our new plant, we came upon four major considerations which lead to our decision to locate in the Burlington, N. J., area.

(1) It is well situated to serve a large and developing market for our products in the United States and abroad.

(2) We were able to acquire some 1,000 acres of very desirable industrial land with an abundant supply of fresh water which is so important to steel-making operations.

(3) We believe that the labor market in Pennsylvania and New Jersey contains a sufficient supply of desirable labor components.

(4) We are extremely well situated for the transportation of raw material and finished products by reason of good rail and highway facilities, and, very importantly, the availability of low-cost water transportation.

The present channel depth in the Delaware River, in front of our property is only 25 feet, although a 40-foot channel has been authorized by Congress. We regard the 40-foot channel as a prerequisite to our ability to produce and market competitively. We understand the Corps of Engineers is in the process of utilizing congressional appropriations in the construction of the authorized channel. Since we will be a substantial user of the newly constructed channel, we thought the joint executive committee would want to be apprised of our situation. We would like to request the joint executive committee to exert every effort to expedite the construction of the 40-foot channel and we invite the committee to call upon us for such facts and information as may be helpful in processing this great waterway improvement.

Very truly yours,

WILLIAM A. COOK, *Vice President.*

Mr. KIRWAN. I think I was the one—I don't say this with the idea of claiming credit for it—that had an important part in stopping this 40-foot channel 2 years ago when it came before the House. But since that time I and the colonel in charge have made a trip, at the invitation of the Chief of Engineers, on the Delaware between Philadelphia and Trenton to see if this 40-foot channel was necessary.

Colonel RENSHAW. Yes. I believe you were with Colonel Clark.

ADDITIONAL COST OF CONSTRUCTING 40-FOOT CHANNEL IN 2 PHASES

Mr. KIRWAN. Now I am fully convinced myself, in view of recent and immediately prospective developments in that area, that a 40-foot channel will be necessary.

What would be the difference in the cost if you dug it down to 35 feet and then you found out later you would have to go to 40 feet; what would be the difference in cost in taking 2 bites instead of 1?

Colonel RENSHAW. It would cost $7.6 million more in initial outlay of funds.

Mr. KIRWAN. If you went down to 35 feet and later on found out it would have to be 40 feet, it would be more expensive by $7 million, than it would be to construct it at 40 feet in 1 operation.

Colonel RENSHAW. $7.6 million, sir. That is the initial cost.

Mr. KIRWAN. On Monday the chairman and I were in the barber shop over here and I happened to pick up the Washington News. There is an advertisement of a ship, the S. S. *Washington*, that slid down the ways in February 1957. It aroused my curiosity and I called the owners of that vessel. I got the information it takes 37 to 38 feet of draft in salt water and 41 to 42 feet in fresh water. That is the kind of ship they are building now.

There was another article I ran across. It shows three ships. One is the *Queen Elizabeth*, one is a proposed supertanker, and one is an aircraft carrier. The aircraft carrier has a draft of 37 feet; the *Queen Elizabeth* has 39 feet; and this proposed tanker will have 49 feet.

Colonel RENSHAW. Forty-nine feet, sir?

Mr. KIRWAN. Forty-nine feet of draft. There are three ships, the *Queen Elizabeth*, the aircraft carrier, and the tanker. The tanker calls for 49 feet of draft.

So in my humble belief this channel should go to 40 feet now, instead of digging it now in one bite to 35 feet, because if we don't now, it is inevitable that we will later on with the result that it will cost $7 or $8 million more. It is 40 feet all the way to Philadelphia and should be 40 feet up to Trenton.

Last year when we were there all we could see were buildings and plants going up all along up through there. So I am glad to hear you say that in your belief as an engineer it would be better to dig to 40 feet in 1 bite than in 2 bites.

Colonel RENSHAW. Sir, my statement was it would be cheaper by $7.6 million.

Mr. KIRWAN. Congress has already authorized a 40-foot channel there?

Colonel RENSHAW. Yes, sir.

Mr. KIRWAN. And it would save money to dig it to the 40 feet in 1 bite, and that is what we are interested in, saving money.

Looking at the ships again, the *Queen Elizabeth*, the tanker, and the aircraft carrier, it is surprising when you see the tanker will take 49 feet of draft. So even at 40 feet there will be ships that won't be able to go up this river that would go if they could.

This steel plant that is going up there will have 1,200,000 tons of ore per year going in there. That is only one of the many that will go in between Philadelphia and Trenton, and I hope the engineers can prove, and rightfully so, to this committee and to the committee

in the Senate and to the Congress that it is cheaper and better to dig down to 40 feet in 1 bite rather than just about the time you got it completed to 35 feet have to go back and dig it to 40 feet.

Colonel RENSHAW. May I make a statement here?

Mr. KIRWAN. Yes. I want you to make a statement.

Colonel RENSHAW. The budget request last year was to start this work on an interim 35-foot basis. Pursuant to that authority by Congress, our request is to continue with the interim 35-foot channel. However, we stand ready to dredge to whatever depth Congress indicates.

Mr. KIRWAN. I understand that they made that request, that it be 35 feet, but I asked if there would not be a saving of money to go down to 40 feet now. We know that one vessel launched recently will take 42 feet in fresh water, this oil tanker, and another one that is proposed will take a 49-foot draft; so we know now that in view of the huge industry between Philadelphia and Trenton you will have to go to at least 40 feet.

REQUIRED ROCK WORK

Colonel RENSHAW. We have, so far, done our dredging without going into rock. The big saving in going on to one depth comes in the rock excavation.

Mr. KIRWAN. At 35 feet you will be coming into rock, and if you are going to go to 40 feet now is the time to do it. Is that correct?

Colonel RENSHAW. Yes, sir.

COMPREHENSIVE PREPARED STATEMENT

Mr. KIRWAN. I have here a rather complete statement on this project that has recently come to my attention, Mr. Chairman, if we could put it all in the record I think it would be very helpful because it gives the whole history of the project and why it is needed. With your permission I would like to place it in the record.

Mr. RABAUT. Without objection, it will be placed in the record at this point.

(The information referred to is as follows:)

BACKGROUND INFORMATION

The Delaware River port extends 135 miles from Trenton, N. J., to the sea. Approximately three-quarters of this waterway, from the sea to the naval base at the lower end of Philadelphia Harbor, has a federally constructed 40-foot channel. When this channel was authorized in 1938, a lesser depth through 17 miles of Philadelphia Harbor and in the 20-mile area above Philadelphia was considered to be adequate in view of the volume and type commerce which prevailed. As the years went by and commerce and industry increased, the need for further extension was foreseen by local interests and this need was conveyed through the congressional representation to yield the following timetable.

The River and Harbor Act, approved July 1946, authorized preliminary examinations and surveys to be made in the Delaware River between Trenton, N. J., and the sea. Subsequently, the Committee on Public Works of the United States Senate and the Committee on Public Works of the United States House of Representatives adopted resolutions which authorized the Board of Engineers to review the reports on the Delaware River from Trenton to Philadelphia and from Philadelphia to the sea to determine whether any modifications in the navigation project would be necessary. On May 3, 1950, the Chief of Engineers authorized a review of survey scope and on January 13, 1953, the Philadelphia District Engineer submitted his report stating that "* * * the most suitable and economic improvement for meeting the needs of present and prospective commerce would

consist of extending the 40-foot depth of channel from the naval base in Philadelphia to the upper end of Newbold Island and of providing a channel 35 feet in depth from that point to the Trenton Marine Terminal."

The project was endorsed at every level of the Federal Government concerned with responsibility for such an improvement. Similar endorsements have come from State and local officials, civic groups, labor unions, newspapers, and the citizens of the Delaware port area. The project was authorized by Congress in 1954 as the official project to satisfy industrial, commercial, defense, and navigation requirements.

In assessing the values of the project a local civilian committee was formed to determine scientifically whether the deepening of the channel would have any adverse affect on water supplies. The committee was composed of representatives of the American Water Works Service Corp., the Campbell Soup Co., and United States Steel Corp., and Mayors G. T. Becton, of Riverton, N. J., G. E. Brunner, of Camden, N. J., and H. W. Peterson, of Woodbury, N. J. This committee financed an exhaustive study which was conducted by Leggette & Brashears, consulting ground-water geologists, and Sheppard T. Powell, consulting engineer, which confirmed the conclusion of the Corps of Engineers that the quality of the ground water would not be damaged by the enlargement of the channel and that the salt content of the water at Philadelphia and above (as well as below) would be reduced.

An elaborate scale model of the Delaware River, reproducing conditions as they will exist when a 40-foot channel has been completed, was constructed at the United States Waterways Station in Vicksburg, Miss., the world's finest center of hydrographic research. The scale-model studies yielded the same conclusions as the other investigations; and these findings were further confirmed by an eminent geologist retained by the Corps of Engineers—Dr. Arthur B. Cleaves, consulting geologist of the Department of Geology and Geological Engineering, Washington University, St. Louis, Mo., who reported that the channel program will not change the condition that already exists.

The Corps of Engineers also conducted intensive studies which demonstrated that the possibility of any damage to the shoreline or riverfront structures is remote. However, recognizing even an insignificant possibility of such damage at Bristol and Florence Heights, the corps, as a matter of policy, has assumed any such damages to be a Federal responsibility, and has earmarked more than $1.1 million in the estimated total cost of the channel deepening for any necessary remedial work or shoreline stabilization.

When submitting his report, the Chief of Engineers stated: "Improvement of navigation facilities on the Delaware River by the United States has, over the years, been one of the primary factors in the industrial and economic growth of the region, and has provided, as the progress of the Nation required, a modern port for the service of commerce and trade with all parts of the world. The present impetus of the national defense program, the accelerated demands of defense and civilian needs, and the strategic location of the Trenton-Philadelphia-Camden area with respect to sources of materials and labor and the markets for processed goods, together with the definite posibility of increasing the national wealth in this highly industrialized area, now combine to require further modernization of the waterway. Private enterprise has already invested its resources in an unprecedented industrial expansion in the region to the benefit of the defense program and the future normal peacetime economy. Improved navigation of the Delaware River to permit use of larger and more efficient vessels is a necessity that follows from judicious planning and foresight. It will add some 60 miles of deepwater harbor capacities which will in itself be a large increase in the size of the low-cost transportation area in this great and rapidly expanding commercial district. The benefits are such as to warrant the construction of the project."

The project is estimated to cost approximately $110 million and the optimum construction time would be approximately 5 years. The monetary benefits are estimated at $8,450,000 annually as compared to annual charges of $4,370,000. The resultant benefit-cost ratio is 1.93 to 1. This benefit-cost ratio was questioned during the appropriations hearings in 1956 and was upheld unequivocably as a result of a thorough reevaluation by the Corps of Engineers.

An initial appropriation of $6 million was authorized for expenditure during fiscal year 1957 and the Bureau of the Budget has recommended an appropriation of $9 million to be expended during fiscal year 1958, the second year of construction. The Philadelphia district engineer, however, has stated under date of

August 21, 1956, that "an amount of approximately $16,500,000 could be economically utilized." In other words, the budget recommendation of $9 million is only 55 percent of the amount which can be economically utilized. If the average annual appropriation for the first 2 years of construction is to prevail over the balance of the project, the total construction time will be 14 years, instead of the optimum period of 5 years, and the completion date will be in the year 1970—24 years after the River and Harbor Act of 1946 authorized preliminary examinations and surveys. In the meantime, commerce and industry are being penalized by reason of the higher transportation costs that accrue on this waterway which is noncompetitive with other major ports to the north and south of this area—such as New York and Baltimore.

This slow rate of progress, occasioned by an insufficient appropriations rate, is cause also for very deep concern of navigation interests. The Pilots' Association for the Bay and River Delaware is charged with the responsibility of piloting the large oceangoing vessels navigating the Delaware River between Philadelphia and Trenton. Captain Harry H. Rowland, president of the association, has cautioned and warned that "these waters are fraught with danger due to the present condition of the channel. This part of the Delaware River channel is nowise adequate for the sea-going vessels presently plying its waters. The inadequacies of this channel have resulted in numerous groundings and collisions, with great cost to the shipping industry. In the interest of safety, the pilots who are obliged to negotiate this obsolete channel feel that immediate steps should be taken to hasten the construction of the authorized up-to-date channel and to widen the drawbridge opening in the antiquated railroad bridge at Delair, N. J."

In addition to the problems raised by a slow construction rate, the Bureau of the Budget has imposed a 35-foot "interim" depth to the project. This restriction, contrary to the project authorized by Congress, also has stirred grave concern. Many of today's ocean carriers require a minimum of 40 feet of water and, in view of the steadily increasing commerce to be carried by these vessels in the Delaware River, the 35-foot restriction is a distinct hazard and economic impediment.

The joint executive committee urges and recommends the appropriations of $16½ million for the Delaware River project, Philadelphia to Trenton; equally important, the joint executive committee urges and recommends the elimination of the 35-foot restricting reference—such reference being in conflict with the project authorized by Congress.

JOINT EXECUTIVE COMMITTEE RECOMMENDATIONS ARE CONSISTENT WITH SOUND ENGINEERING AND BUSINESS PRACTICE

The final 5 feet of depth in the proposed 40-foot channel carry the most favorable monetary return. The following table, which contains selected Army engineers' figures, illustrates this point:

	Average annual cost (including maintenance)	Average annual benefit	Benefit-cost ratio
40-foot channel	$4,370,000	$8,450,000	1.93
35-foot channel	2,807,000	4,888,000	1.74
Therefore a 40-foot channel costs an additional	1,563,000		
But it returns an additional		3,562,000	
Yielding a benefit-cost ratio (for the final 5 feet) of			2.28

Elimination of the final 5 feet of the proposed channel also eliminates the most profitable segment and, at the same time, increases navigational hazards for the modern supercargo vessel.

It is the view of the Bureau of the Budget that a 35-foot channel should be constructed initially and then, as commerce increases, that a 40-foot channel should be constructed. The Corps of Engineers estimates that construction of the 40-foot channel in a 2-stage operation, by going first to 35-feet and then to 40-feet at a later date, will cost an additional $7,600,000. This needless expenditure, on the part of the Government, will be accompanied by higher industry shipping costs in the magnitude of several million dollars a year occasioned by operating over a 35-foot channel as compared to a 40-foot channel.

The Budget Bureau's present view is inconsistent with its earlier statement expressed when analyzing the report of the Chief of Engineers which recommended the 40-foot channel. At that time the Bureau stated: "It appears to us that any plan which contemplates throughout the economic life of the improvement the partial unloading of these vessels at Philadelphia before proceeding to Newbold Island would prove to be a temporary, uneconomic arrangement which would ultimately have to be modified to provide for the 40-foot channel. It is apparent, therefore, that the 40-foot improvement is the only satisfactory solution and that it should be authorized and accomplished as a single operation in the interests of the greater transportation and construction economies involved."

The 35-foot restricting reference in the budget violates sound engineering and business practice. The engineering problems involved in rock drilling and excavation must be emphasized in a program which employs a 2-step operation—35 feet first and then 40 feet subsequently—as compared to a 1-step 40-foot operation. Not only is the 2-step operation more costly but it raises considerable problems and difficulties with regard to the mobilization of the specialized equipment which is necessary for this type work. It is far better to mobilize this equipment once and complete the job to 40 feet rather than to be forced into costly remobilization at a later date. Once the drilling of the rock formation starts and the drilling has proceeded to the 35-foot restriction, it is only a matter of an additional 20 to 30 minutes to continue the drilling to the authorized 40-foot depth—and the additional costs of this 1-step operation are relatively minor. A major difficulty, however, in drilling first to 35 feet and then going back later to drill for the additional 5 feet lays in the fact that the second approach to the rock finds the remaining rock formations in a jumbled mass as the result of the first drilling program and this leads to considerably increased probing difficulties, broken drills, and time-consuming wasted effort.

The Joint Executive Committee strongly urges and recommends the removal of the 35-foot reference in the budgeted appropriations for fiscal year 1958 and thereafter.

The monetary benefit of the project authorized by Congress is estimated by the Board of Engineers at $8,450,000 annually. The full benefit, however, does not—and cannot—accrue until the congressionally authorized depths are accomplished. The present average appropriation, actual for fiscal year 1957 and recommended by the Budget Bureau for fiscal year 1958, if continued will result in a project completion date during the year 1970—a total construction time of 14 years during which only a small measure of annual benefits will accrue. The contractual obligations which have been made by the Philadelphia district engineer for fiscal years 1957 and 1958 will consume the full $6 million appropriated during fiscal year 1957 as well as the $9 million in the proposed budget for fiscal year 1958. Because of the magnitude of the construction to be accomplished, and because of the small amounts of money so far allocated, there will be no increase for years in the controlling 25-foot depth to Newbold Island and Trenton.

This situation is attributable to the great masses for rock formation which must be drilled and excavated from the authorized channel within the portion which runs through the upper end of Philadelphia Harbor and directly adjacent to the northeastern boundary line between Philadelphia and Bucks Counties. The rock-removal program will require a minimum of 5 years and the Delair railroad bridge reconstruction program will require approximately 4 to 5 years—both construction times based on physical limitations—and will consume approximately 50 percent of the total construction costs of the navigation project. The $9 million proposed for fiscal year 1958 will allow no rock work. It will allow only completion of contracts already awarded for dredging of soft materials on top of the rock formations and on the downstream side of the rock foundations, plus completion of contracts awarded for the partial reconstruction of the Delair railroad bridge. Good engineering practice requires the removal of this downstream rock in the initial stages of the program, with the dredging of soft materials to go hand-in-hand with the time-consuming rock-removal operation. Funds should be made available immediately and in sufficient sums to process the improvement at a rate which will allow it to start making a return on the Government's investment at the earliest possible moment. The recommended $16.5 million appropriation will provide a real start on the lengthy rock-removal program and, also will permit some additional dredging of soft material.

The committee would like to point out, however, that even the $16.5 million will permit no increase in the controlling 25-foot depth to Newbold Island and

Trenton. Even if unlimited funds were to be made available in future years, the physical job of rock removal still would consume a full 5 years and place the most optimistic completion date into the year 1963. During the interim, the present 25-foot channel will prevail because of the manner in which the rock must be removed. This rock covers an area of more than 5 miles. It will be excavated in much the same way as slicing a loaf of bread—one slice at a time. And, until all the slices are removed, the present 25-foot depth will prevail—at least 5 years and as many as 14 years at the present rate of appropriations.

The Joint Executive Committee favors Government economy but there is no economy in slow processing in order to conserve capital outlay while, at the same time, the result of the slow processing will lead to increased project cost and will forestall the initiation of "project pay-out."

The budget for fiscal year 1958 recommends $2.4 billion for international affairs and finance. The Delaware River port is the Nation's No. 1 foreign trade center and the Delaware River is the international highway to foreign trade. The additional $7.5 million requested by the committee to process this highly endorsed Delaware River navigation project is only three-tenths of 1 percent of the recommended budget expenditure for international affairs and finance. It seems extremely logical to process our necessary home foreign trading facilities in a parallel program with our international affairs and finance.

The budget recommends $43 billion for expenditures for major national security. The Delaware River port is an effective national security asset. It houses the United States Naval Base and other military installation, as well as the vital and predominant industries of oil, steel, and chemicals. During World War II, 15 to 20 percent of all goods shipped in and out of the United States were handled in the Delaware River port. During the Korean conflict, in a period of less than 2 years, a marine terminal on the upper reach of the Delaware received and processed 96,540 Army vehicles ranging from jeeps, trucks, tractors, trailers, tanks, and armored cars to ambulances and buses. There were 325 ships loaded with a total of 1,500,000 tons. This facility received a commendation from the Army for its work. However, its capacity could have been greater except that the inadequate channel restricted its operations. The Delaware River navigation project under consideration is vital for defense and yet the complete cost of the entire project ($110 million) is also noted to be less than three-tenths of 1 percent of the recommended budget expenditures for major national security. It seems extremely logical to develop such an asset in a parallel program with our major national security.

THE DELAWARE RIVER PORT BETWEEN PHILADELPHIA AND TRENTON IS A WELL-ESTABLISHED PORT AREA

The project under consideration extends from the naval base, at the lower end of Philadelphia, through 17 miles of the Philadelphia Harbor and then continues an additional 20 miles to Trenton, N. J.—a total of 37 miles. This is the final quarter of the navigable Delaware River between the Atlantic Ocean and Trenton, N. J. The lower three-quarters already enjoys a 40-foot channel. The remaining one-quarter has an authorized 40-foot channel which was strongly justified on the basis of commerce existing and reasonably expected to develop at the time the survey was made. The rapid development of commerce and industry is reflected in the official figures released by the Corps of Engineers. During the year 1952 waterborne commerce between Philadelphia and Trenton was 6,949,933 tons. The latest figures available are for the year 1955 and these figures show a 58 percent increase of 4,059,904 tons, to a new total of 11,009,837 tons. This rate of growth, which far exceeds the national average, reflects the exceptionally healthy economic condition of the area and, in essence, is a guaranty to the Federal Government that the waterway facilities are being and will continue to be used to an extent which will produce economic benefits of a magnitude equal to, and very probably greater than, those set forth in the justification computation.

While the original justification for the waterway improvement under consideration was based, quite properly, only upon industry existing at the time, the Board of Engineers stated: "The Board is convinced that other and more extensive benefits will be realized ultimately, and finds the improvement to be warranted in the interest of general navigation." This conviction of the Board of Engineers has been borne out by reason of the establishment of additional industry since that time and by reason of firm plans for new industrial establishment. The multimillion dollar plant of the National Gypsum Co. at Burlington, N. J., is an example of industry which has come into the area since the corps'

original justification. This plant is designed to handle 350,000 tons of raw materials annually and is presently in operation. The raw materials are transported to the plant by modern ocean carriers which were designed specifically for this trade and which require the authorized 40-foot channel depth for safe and economic operation. The Meenan Oil Co. is a newcomer fuel-oil distributor at Levittown, Pa., making use of the Delaware River in the distribution of several million gallons of product annually. Meenan looks forward to the early construction of the 40-foot channel because of the greater economies involved. The Wood Conversion Co. recently announced plans for the construction of a multimillion dollar shoreside manufacturing plant in the Burlington area, adjacent to the authorized 40-foot channel.

The Phoenix Iron & Steel Co., a subsidiary of Barium Steel Corp., has acquired some 1,000 acres of ground in the Burlington area, adjacent to the National Gypsum Co., for the construction of a completely integrated steel plant. This new plant, only the fourth of its kind in the United States, will be the major part of the most extensive and costly expansion program ever launched by Phoenix Iron & Steel—a company which has been in business since the year 1790. The principal products will be high priority steel plate, shapes, seamless tubes, and bars for American industry.

Within the short period of the next 2 years, the Phoenix installation will be consuming iron ore at the rate of 1,200,000 tons annually. At the present time the plant is in the engineering and design stage. The initial installation will involve one blast furnace, to be followed in close succession by the various necessary processing facilities and finishing mills. As the plant progresses through its various stages and reaches final proportions, two additional blast furnaces will be added which will increase the annual iron ore input to 3,600,000 tons.

A major consideration in the choice of the Delaware River site was the availability of low-cost water transportation—as promised by the congressionally authorized 40-foot channel—to enable Phoenix to import vital supplies of high-grade ore from Canada and Central and South America.

In addition to this establishment of new industry, which yields substantial amounts of increased commerce, there is established industry in the area as exemplified by the United States Steel Corp. plant at Morrisville, Pa.

During 1957 the Morrisville plant anticipates the shipment of 5 million tons of ore. This vital ore, from foreign sources, is urgently needed at Morrisville and at interior steel plants for steel production to satisfy our expanding national economy and to protect our defense needs. However, if vessels must transport this ore over a 35-foot channel, instead of a 40-foot channel, there is a potential economic disadvantage which does not accrue at competing ports. This disadvantage, or penalty, is a distinct factor in industrial effectiveness and could be of such proportion as to forestall further expansion of this steelmaking facility.

The engineering firm of Parsons, Brinckerhoff, Hall, & MacDonald, in a report submitted to the Delaware River Port Authority, stated: "With the gradual depletion of the Mesabi (Minnesota) iron ore deposits it can be expected that overseas sources will be used at an increasingly higher rate. Deepwater steel plants, such as the Fairless works, are the obvious future trend." The United States Steel Corp. at Morrisville was first, Barium Steel Corp. at Burlington will follow, and it is reported that National Steel Co. has purchased acreage for the erection of steelmaking facilities. Iron ore is available in Sweden, Cuba, Morocco, Liberia, Brazil, Venezuela, Chile, Peru, Newfoundland, Labrador, and Quebec, but the most suitable sources, considering the size of the deposits, the iron content, and other factors, seem to be Venezuela and Labrador-Quebec. All of these sources are logical and economical for mills located within the Delaware River port, and the changing raw material situation, combined with proximity of markets, will provide further stimulus to steel expansion in this area. In addition, the Delaware River is the port of entry for the increasingly large iron ore imports destined for the inland steelmaking centers.

A major portion of expansion of present industry and establishment of new industry is taking place in the industrial frontier area above Philadelphia. However, 17 miles of Philadelphia Harbor are included in the authorized channel project, and it is noteworthy that the city plans to spend $12 million in rehabilitating and rebuilding key segments of its waterfront. Also, such major installations as the Reading Railroad Co.'s Port Richmond Terminal, known as the largest privately owned tidewater terminal in the world, and the Pennsylvania Railroad's huge ore receiving facilities at Greenwich Point are located within Philadelphia Harbor and are being improved and expanded in order to

handle the greatly increasing volumes of oceanborne cargoes. A survey of Delaware Valley industry reveals that more than $3 billion has been spent since the Second World War for modernization and expansion to meet increasing civilian and defense requirements.

These statistics and facts are cited in order to emphasize that the area under consideration is one which is well established and which will make good economic use of the Government investment in the authorized waterway project. Since the beginning days of the United States, the availability and use of water transportation have lowered prices by keeping the overall transportation bill of the Nation low and thus have benefited all of the people, whether they live, work, or operate businesses on navigable waterways or some distance therefrom. The Federal Government investment in waterways has been an investment in the building and progress of the Nation and has been a vital asset, not only in peacetime commerce but also in wartime and times of national emergency.

BULK-CARGO VESSELS IN INTERNATIONAL TRADE ROUTES REQUIRE MODERN WATERWAYS WITH A MINIMUM 40-FOOT DEPTH

In order to obtain the full measure of utility, our national waterways must be continuously maintained and improved. There has been a marked trend toward larger and faster bulk-cargo vessels which are designed to serve peacetime requirements in a more economical manner and to permit effective carriage of vital materials under the stress of national emergencies. This trend was noted in a report issued in 1953 by the United States Committee of the Permanent International Association of Navigation Congresses. The committee's report contained these conclusions: For general cargo vessels, the trend is "toward a draft of 30 feet," and the same is true for combination passenger-cargo vessels. (The Mariner-type, which has been adopted as the desirable United States-flag dry-cargo vessel, has a loaded draft of 32 feet.) For tankers, the trend is to deeper drafts and increased speed, while bulk-ore carriers will have drafts of 37.5 feet in salt water. In reporting on bulk carriers, the committee held that if there were no limitations as to channel depths, the draft of many of these vessels would be designed far in excess of 40 feet. The general conclusion of the committee was that the requirements of bulk-cargo ships will "determine desirable channel depths because of the tremendous and widespread commerce" in the materials and products they transport.

Maj. Gen. Emerson C. Itschner, Chief of the Corps of Engineers, in a talk before the American Association of Port Authorities said: "* * * The use of larger carriers will eventually benefit the national economy and reduce prices to American consumers, but it also points up the need for progressive maintenance and modification of our navigation program. The trend toward deeper drafts, in particular, is seen in all classes of vessels except oceangoing passenger ships, and is particularly marked in tankers, ore carriers, and bulk-cargo vessels—the very categories of shipping which are becoming more important both to our economy and to our national strategic strength. It is technically and economically sound to construct supertankers and super ore carriers. If our harbors and entrance channels could take them, it is probable that many such vessels now under construction would have been designed to draw more than 40 feet."

The Joint Executive Committee has made an analysis of the ore carriers and combination oil and ore vessels under construction or on order in the shipyards of the world on December 31, 1956, as listed in the authoritative publication the Shipping World and World Shipbuilding, London. This analysis reveals a worldwide total of 122 ore ships and combination ore and oil ships on order or under construction on December 31, 1956, with a total deadweight tonnage of 2,516,260. The average deadweight tonnage of these ships is 20,625—placing them, without question, in the supercargo-vessel category. An even more significant feature of the analysis is that one-third of the vessels have deadweight tonnage greater than this hypothetical average vessel—deadweights ranging all the way up to the 87,200-ton figure. This joint executive committee analysis is corroborated by one recently completed and published by W. G. Weston, Ltd. (Westinform Shipping Report No. 69), which lists the average deadweight tonnage of ore carriers on order at essentially the 20,000 deadweight-ton figure.

To gain the true perspective of vessel-size trends, however, it is necessary to compare the ship being built with the ship which is on the water and which will, all too soon, become ready for scrapping. A special study has been made by

W. G. Weston, Ltd. (Westinform Shipping Report No. 68) of the operation of the ore-carrying fleet during the first 6 months of 1956. The study covers the operation of a total of 113 ore carriers of 1,813,200 tons deadweight which were fully employed during the whole period. The group includes 46 converted tankers of 630,200 tons deadweight, but excludes the new type of general-purpose bulk carrier, bauxite carriers, vessels employed in the Australian coastwise trade, and ordinary tramps engaged in carrying ore cargoes for the time being. The fleet as a whole performed 902 voyages during the half-year, corresponding to a total lift of 15,285,100 tons deadweight, of which about 75 percent was carried in specially designed ore carriers.

The average size vessel in actual worldwide use, as revealed in this study, is 16,950 deadweight tons. When comparing this actual average size vessel (16,950 deadweight ton) with the average size vessel under construction (20,625 deadweight ton), it is noted that the new average is a startling one-fourth larger in deadweight-ton capacity measurement. The actual 16,950 deadweight-ton vessel in use draws about 30 feet of water. The hypothetical average vessel of 20,625 deadweight tons which is under construction is one which will draw about 31 to 32 feet of water, the 30,000 deadweight-ton vessels included in this average will draw about 34 feet of water, the 45,000 deadweight-ton ship will draw about 36 feet of water, the 67,000 deadweight-ton ships will draw about 41 feet of water, and no known draft was listed at the time for the 87,000 deadweight-ton ships.

As far back as 1938, the Corps of Engineers stated that 10.5 feet of water were needed in addition to the draft of a ship of that day drawing 30 feet of water when coming into the Delaware River. These additional 10.5 feet were to provide for tide conditions, loss of buoyancy when moving from salt water to fresh water, the squat of the vessel when proceeding through a channel, and an allowance of water under the keel for maneuvering and safety. The joint executive committee accepted and, over the years, has been guided by the additional water requirement as stated by the Corps of Engineers. In June of 1956, the committee made an up-to-date analysis and reached a similar conclusion that at least 10 feet of water are needed below the keel of today's common-type supercargo vessel entering the Delaware River.

Since the average ore ship in actual use has a draft of about 30 feet and since the average ore ship under construction, or on order, has a draft of 31 to 32 feet, it is at once clear that by adding the 10-foot allowance described in the previous paragraph, a channel depth of 40 feet is the absolute minimum for safe and economic operation of only these average-size vessels. And the larger vessels comprising the averages will require proportionately greater depth. One-third of the number of vessels under construction are larger than the average vessel under construction and nearly one-half of them are larger than the average vessel in actual use. All require 40 feet of water in the Delaware River and many will be effectively barred from the river by a lesser depth.

The lack of water will be felt progressively because of our country's increasing dependence upon imported ore supplies. The Shipping World, dated January 30, 1957, in an authoritative article entitled "Iron Ore Carrier Developments" states: "The iron ore import requirements of the United States are accelerating at a very rapid rate, owing to the running down of domestic ore reserves. Imports into the United States nearly doubled from 12 million to 23 million tons between 1953 and 1955, and are expected to double themselves again by 1960; estimated imports are 53 million tons by 1965 and 68 million tons by 1970, according to the Bureau of Mines, United States Department of Interior.

"Changes in the direction of the ore trades are also now becoming apparent. American steelmakers in coming years will be relying to a much greater extent than hitherto on imports from Labrador and Venezuela. In 1955 they imported about 6 million tons from Venezuela and about 5 million tons from Labrador (from which shipment ceases during the winter season). By 1960 it is forecast that the intake from Labrador will have reached 15 million tons, with Venezuela supplying 13 million tons. Ten years later, it is thought, 30 million tons will be coming from Labrador and 20 million tons from Venezuela."

In the transportation of these supplies of high-grade ore, industry has been obliged to employ the modern supercargo vessel to hold down costs and to increase the "liftability" of the fleet. The provision of any less than 40 feet of water in the Delaware River, which is the fastest growing seaboard steel center and a major port of entry for iron ore destined to the interior plants, will hinder not only the steel industry but all types of industry, commerce, and the national interest.

The National Gypsum Co.'s specialized type bulk ships, servicing the Burlington, N. J., plant, were designed as being the most practical for use at that installation. These ships require 40 feet of water for safe and economic operation in the Delaware River. Presently the ships are losing one-third of their carrying capacity in the Delaware River because of today's 25-foot channel—a channel depth which will continue to prevail until sizable appropriations are made. The Meenan Oil Co., fuel-oil distributors in the Levittown area and typical of small-business enterprise, testified last year that the authorized channel would secure for them an estimated annual saving of $86,000. And, of course, the iron-ore shipments, totaling many million tons annually, likewise are being penalized in proportionate manner by this same 25-foot prevailing depth.

It is pertinent, also, to consider the fact that the Delaware River port area possesses a full 10 percent of the national total of petroleum refining capacity and since petroleum demand is expected to increase by better than 50 percent over the next 10 years, it is likely that additional oil refineries may locate within the area. Therefore, it may be noted in passing that according to a trade study conducted by John I. Jacobs & Co., Ltd., London, the existing tanker fleet on December 31, 1956, averaged 16,930 deadweight tons; new buildings which were delivered during the second half of 1956 averaged 26,430 deadweight tons; and new buildings on order as of December 31, 1956, averaged 31,104 deadweight tons—all of these average vessels require a minimum channel depth of 40 feet and the larger vessels comprising the average require proportionately more than 40 feet.

THE JOINT EXECUTIVE COMMITTEE URGES CONGRESS TO EXERCISE ITS PREROGATIVE TO FOSTER AND ENCOURAGE NEEDED AND BENEFICIAL WATERWAY IMPROVEMENTS

The Delaware Valley and especially the area bordering the Delaware River north of the Philadelphia-Bucks County line has been described as the outstanding industrial frontier on the United States east coast. There is an ample supply of suitable land for industrial development, there is an adequate supply of skilled and unskilled labor, there is ample water for manufacturing purposes, and all of these things are supplemented by a highly efficient land transportation system, proximity to sources of raw material, and a market area which encompasses one-third of the national population. Delaware Valley industry is so well diversified that it accounts for 87 percent of all types of United States industry. The Delaware River ports move substantial tonnage to and from other States which are economically tributary to this area—in addition to the locally generated port traffic. The area represents an important segment of the national economy. These interesting facets are recited merely to give a profile of the established area which is under consideration with regard to modernizing the Delaware River Channel.

The joint executive committee represents a broad segment of commercial, civic, and business interests through its 18 member organizations within the 3-State Delaware Valley area. The committee has been instrumental, since 1888, in promoting all major improvements to navigation in the Delaware River; and we regard this present channel improvement program to be of paramount importance in the continued progress of local and national welfare.

The AFL–CIO and the railroad brotherhoods in this area are fully behind this channel-improvement program. In speaking of deepening the Delaware River to a depth of 40 feet, labor has declared: "It takes no prophet to foresee the advantage to labor," and "The economic growth and prosperity of the Delaware Valley are dependent upon the Delaware River," and "The deepening of the Delaware * * * would further industrial development in the Delaware Basin, thereby increasing employment."

It is for the reasons cited in this testimony that the Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area recommends and requests a congressional appropriaion of $16.5 million toward accomplishment of the modern, safe, industrial waterway in the Delaware River between Philadelphia and Trenton. The committee strongly urges, also, removal of the 35-foot restricting reference—since such reference is in conflict with the congressional authorization and contrary to the needs of commerce, industry, and defense.

The growth of America, its industrial supremacy, the high living standards of its people, and its unrivaled transportation system add up to national strength. That strength is due largely to harbor and channel development. This great waterway improvement is another step in the continued building of national strength through better commerce and better defense preparedness in the form of a permanent asset.

Mr. FENTON. With reference to the steel plant Mr. Kirwan mentioned, there are other plants going up there, are there not?

Colonel RENSHAW. Yes, sir; there are other industries. United States Pipe & Foundry is one.

Mr. FENTON. And National Gypsum, an oil company, and quite a number of other industries.

I understand that the commerce between Philadelphia and Trenton back in 1952 was something on the order of almost 7 million tons, 6.9 million tons. In 1955 there has been an increase of 58 percent, or a total tonnage now of over 11 million tons from Philadelphia to Trenton.

Colonel RENSHAW. That is right, sir.

Mr. FENTON. That is pretty good tonnage, is it not?

Colonel RENSHAW. That is a large tonnage.

Mr. FENTON. And from Philadelphia to Trenton it is only a 25-foot channel now, is it not?

Colonel RENSHAW. That is right.

Mr. FENTON. I understand also that the main part of this whole project, 50 percent of the cost, is for two items, the railroad bridge and rock excavation; is that correct?

Colonel RENSHAW. Yes, sir.

Mr. FENTON. Where is the rock?

Colonel RENSHAW. The rock is in the middle section. On your map it is between R–1 and R–7.

Mr. FENTON. How much rock is there, what depth?

Colonel RENSHAW. That 35- to 40-foot increment is practically all rock in that section.

Colonel PENNEY. From 35 feet down to 40 feet is practically all rock, largely rock. There would be some rock above the 35 feet.

Colonel CLARK. There are 900,000 cubic yards above 35 feet and about 1,400,000 in addition above the 40-foot plane.

Mr. FENTON. What is that in length?

Colonel RENSHAW. About 6 or 8 miles.

Mr. FENTON. And, of course, you do not contemplate using any of this $9 million in fiscal 1958 on the rock?

Colonel RENSHAW. No, sir. That was based on all earth excavation this year.

Mr. FENTON. What work do you contemplate from Newbold Island up to Trenton?

Colonel RENSHAW. That is to 35 feet.

Mr. FENTON. What was the original estimate of the time for completion of this project?

Colonel RENSHAW. Five years.

Mr. FENTON. For the completion of a 40-foot channel?

Colonel RENSHAW. Yes, sir.

Mr. FENTON. How long will it take you to complete it to 35 feet?

Colonel RENSHAW. It would take about the same time at the rate we are progressing.

Mr. FENTON. The same time as to complete it to 40 feet?

Colonel PENNY. The 35-foot interim project could be done in 5 years, roughly, and the full 40-foot channel, if it were started initially, could also be done in 5 years; but at the present time we are doing only the 35-foot.

Mr. FENTON. Could you economically use more money to go to 40 feet?

Colonel RENSHAW. Yes, sir. If we go to the 40-foot channel, from an engineering point of view and without regard to fiscal policies we could use $14 million this year, if we go to 40 feet.

Mr. FENTON. At the present rate, if you completed the 35-foot proposition and then got permission to go to 40 feet, how much longer would that take?

Colonel RENSHAW. I would estimate about 3 more years. That job would have considerable rock, and there is not too much equipment available for that work.

Mr. FENTON. Somebody informed me it might take 14 years.

Colonel RENSHAW. From our point of view it would depend on the rate at which funds were made available.

Mr. FENTON. How many miles of rock did you say there are?

Colonel RENSHAW. Between 6 and 7 miles.

Mr. FENTON. You could complete it in 5 years to a 40-foot depth if you got more money?

Colonel RENSHAW. Yes.

Mr. FENTON. And if you complete the job to a 40-foot depth starting now, you can save $7 million?

Colonel RENSHAW. That is the saving in first cost to the United States Government based on constructing the project in 1 stage rather than 2 stages.

Mr. FENTON. I think that is all at this time, Mr. Chairman.

Mr. TABER. What is the present status of your funds?

Colonel RENSHAW. We will have about $1.6 million unexpended on the first of July, sir.

Mr. TABER. How much unobligated?

Colonel RENSHAW. There will be practically none unobligated.

Mr. TABER. That is all.

Mr. KIRWAN. I want to mention just one more thing.

Looking over those two newspaper articles, one says the demand for big boats has come about from the Suez crisis. They discovered when they could not get through the Suez Canal it raised the price of oil all over the world. Don't you think it is a very expensive thing if we cannot get up the main navigation channels with our bigger boats and get the oil where it is needed? It tells you here prices in the Middle East appeared to have stampeded the demand for larger boats in order to satisfy the demand for oil. So I am convinced it is a saving of money to dredge that channel to 40 feet. In the long run the money we invest in getting that 6 miles of rock out of there will pay for itself many times over.

That is all.

NEW YORK AND NEW JERSEY CHANNELS

Mr. RABAUT. The next project is New York and New Jersey channels.

We will put pages 31 through 34 in the record.

(The information referred to is as follows:)

NEW YORK AND NEW JERSEY CHANNELS, N. Y. AND N. J. (35-FOOT CHANNEL)

(Continuing)

Location.—These channels, about 30.8 miles in length, extend from lower New York Bay around the west side of Staten Island to upper New York Bay and are located approximately along the boundary line between the States of New York and New Jersey.

Authorization.—1935 and 1950 River and Harbor Acts.

Benefit-cost ratio.—1935 act not evaluated; 1950 act: 1.29 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$61,900,000	
Estimated non-Federal cost	1,411,000	
Cash contribution	0	
Other costs	1,411,000	
Total estimated project cost	63,311,000	
Appropriations to June 30, 1956	40,955,000	
Appropriations for fiscal year 1957	[1] 4,490,000	
Appropriations to date	45,445,000	73
Appropriations requested for fiscal year 1958	5,200,000	82
Balance to complete after fiscal year 1958	11,255,000	

[1] Includes permanent transfer to project of $490,000.

PHYSICAL DATA

Channels: Lower New York Bay through Raritan Bay and Arthur Kill to vicinity of Smith Creek, 35 feet deep and 600 feet wide, with widening at bends to 800 feet, 15.9 miles long; thence in Arthur Kill from vicinity of Smith Creek to Piles Creek, 35 feet deep, 500 feet wide, with widening at the bends, 6.5 miles long; in Arthur Kill and Kill Van Kull from vicinity of Piles Creek to Upper New York Bay, 35 feet deep, 500 to 800 feet wide, 8.4 miles long. Bend in Arthur Kill at Baltimore & Ohio Railroad bridge widened by 200 feet to depth of 35 feet.

Cutoff: At junction with main ship channel to a depth of 30 feet.

Anchorage:

Perth Amboy: Deepen 33-foot anchorage to 37 feet and provide area 25 feet deep. Overall area 1,800 feet wide and 5,000 feet long.

Sandy Hook: 38 feet deep, 1,600 feet wide, and 5,000 feet long.

Status (Jan. 1, 1957)

	Percent complete	Completion schedule
Lower New York Bay to vicinity of Smith Creek	100	
In Arthur Kill from Smith Creek to Piles Creek	38	November 1959.
In Arthur Kill and Kill Van Kull to Upper New York Bay	100	
Anchorage, Perth Amboy	100	
Anchorage, Sandy Hook	0	June 1960.
Cutoff at junction with main ship channel	0	September 1958.
Widen bend at Baltimore & Ohio RR. bridge	0	May 1959.
Entire project		June 1960.

JUSTIFICATION

These channels, as part of the port of New York channel facilities, serve one of the most highly industrialized areas in the United States for storage, refining, and distribution of petroleum products, in addition to large chemical plants; railroad, lumber, and coal terminals; public-service companies, and other industrial and commercial plants. It also serves the world ports through its existing deep-draft ship lanes and ports of the Great Lakes and St. Lawrence River

through the Hudson River. Continuation of further improvement under the project to provide wider and deeper channels is essential in order to accommodate the constantly expanding volume of traffic handled in larger and deeper draft vessels.

During 1955 the foreign and domestic commerce originating from or consigned to points on this project amounted to some 72 million tons, or 50 percent of the total commerce of the port of New York. In addition, over 23 million tons of commerce originating elsewhere than from the bordering uplands traveled this waterway in 1955 en route to other parts of the Harbor of New York, or a total of 95 million tons of commerce traveled this important maritime artery in 1 year. Approximately 25 percent of the total commerce for New York and New Jersey channels is handled in the 6.5-mile reach of the middle section of Arthur Kill between Sewaren and Piles Creek, which is essentially all that remains in completing the entire 35-foot main channel between Upper and Lower New York Bays. By completing this link, the full economic benefits anticipated from the project will be realized, and the full capacity of these channels will be available in the event of a major national emergency. Tankers presently using the waterway have loaded drafts up to 34 feet. The major difficulty affecting the operating of deep-draft vessels on this waterway is insufficient depth and width of channel in the middle section of Arthur Kill, since this portion of the waterway cannot accommodate the larger and more efficient vessels now in use in its northerly and southerly ends. Completion of the improvement will also provide a connecting link of equal depth in one of the most important waterways in the port of New York, and will result in widespread national benefits.

Fiscal year 1958.—The requested amount of $5,200,000 will be applied to—

Final payment to contractor for dredging and rock removal, completed in fiscal year 1957, opposite Tremley Point (south section), area 7	$276,000
Initiate dredging and rock removal, under a continuing contract, Pralls Island to Tremley Point, area 8	1,560,000
Complete dredging and rock removal, under a continuing contract initiated in fiscal year 1957, opposite Rahway River, area 11	1,620,000
Complete dredging and rock removal, under a continuing contract initiated in fiscal year 1957, in the vicinity of Linoleumville (south section), area 12	900,000
Initiate dredging and rock removal, under a continuing contract, vicinity of Lakes Island, area 15	450,000
Engineering and Design	114,000
Supervision and Administration	280,000
Total	5,200,000

In the present 30-foot section of Arthur Kill, the handling of deep-draft ships can be accomplished only with some hazard or by employing uneconomic methods such as carrying partial loads, navigating only on high tides during the daytime, or lightering vessels before proceeding to terminals. All these alternatives are inefficient and costly and result in appreciable loss. It is essential that a through depth of 35 feet be provided at the earliest date for the safe and efficient movement of the millions of tons of waterborne commerce transported on this important maritime artery.

Work areas have been selected to afford the best possible channel lanes to navigation interests during dredging operations consistent with existing depths. The sequence has been arranged to take advantage of available dredging equipment in this area, to permit traffic to pass without undue delays or hazards during dredging operations, and to provide the deepest available water where possible.

COMPLETED MODIFICATIONS NEW YORK AND NEW JERSEY CHANNELS

Work completed consists of an anchorage to a depth of 33 feet south of Perth Amboy authorized by the act of September 6, 1933. The cost of this completed work is $807,000.

Non-Federal costs.—The costs to local interest of complying with the requirements of local cooperation as set forth in the authorization legislation for the 35-foot channel in the middle section of Arthur Kill is $1,411,000. This cost to local interests consists of $3,000 for lands, easements and rights-of-way and $1,408,000 for deepening the approaches and berths at the terminals using the improvement.

In addition, local interests bordering the New York and New Jersey Channels have expended within the past 40 years over $100 million for plant and terminal facilities. Many millions of dollars have also been spent for navigation improvements to the approaches, and for berthing facilities, at the terminals. Local interests have signified their intentions of undertaking further terminal improvements to meet the needs of increasing commerce. The two principal oil companies in the northern section of Arthur Kill are presently expanding their oil storage facilities by constructing new tanks with a total capacity of 200 million gallons. One of these companies is also modernizing its refining facilities. Another oil company located in the southern section of Arthur Kill is now extending its docking space and is widening and deeping the berth and approach to its dock. The costs of these improvements aggregate several million dollars.

Status of local cooperation.—The city of New York, the city of Linden, N. J., the Borough of Cartaret, N. J., and the Borough of Woodbridge, N. J., have furnished assurances that the requirements of local cooperation will be supplied. The Sinclair Refining Co., the General American Transportation Corp., and the Cities Service Oil Co. have also furnished assurances for deepening the approaches and berths at their terminals upon completion of the channel deepening. The city of New York has furnished permanent easements to the United States for all land required for the channel dredging. Disposal areas for work completed or underway have been furnished by local interests. No disposal areas are required for work contemplated in fiscal year 1958.

Comparison of Federal cost estimate.—The current Federal cost estimate of $61,900,000 is an increase of $2 million over the latest estimate ($59,900,000) submitted to Congress. The net change results from an increase of $2,533,000 due to higher price levels which reflect recent field experience and a reduction of $533,000 due to reevalution of costs for engineering and design and supervision and administration.

DREDGING COST INCREASE

Mr. RABAUT. Two years ago the estimated Federal cost of this project was $58 million. Last year it was $59,900,000. Now it is $61,900,000. For a project that is about three-fourths completed this is certainly unusual. What is the reason for this?

Colonel RENSHAW. Sir, the cost increase this year is almost entirely based on the price-level rise.

Mr. RABAUT. Some places we are having an increased cost for certain types of work, and in other places we are having reduced costs.

Colonel RENSHAW. This is dredging work, sir.

Mr. RABAUT. What do the dredgers give as their reason for these increased costs in their particular field of activity?

Colonel RENSHAW. One of the features, in discussing it with the dredgers, has been the plant replacement cost.

Mr. RABAUT. The committee might well have an opinion that we are appropriating too much for this type work. Maybe we have appropriated so much for so many projects that we are in competition with ourselves. There is a shortage of equipment and we have all these projects competing for the equipment instead of the dredging companies competing for the business. What is your opinion about that?

Colonel RENSHAW. Mr. Chairman, the cost of dredging, like the cost in the heavy construction industry, has gone up this year. The industry claims the increases are about in proportion with the cost-index rise.

Mr. RABAUT. Some of our land work is cheaper.

Colonel RENSHAW. There is greater competition for the land work.

Mr. RABAUT. Maybe we haven't enough competition in this field. This increase from $58 million to $61,900,000 is a tremendous increase in a couple years, especially when you consider that it only applies to about a quarter of the project since it is about three-quarters completed.

Does the increased cost explain the drop in benefit-cost ratio from 1.4 to 1 to 1.29 to 1?

Colonel RENSHAW. Yes, sir. The cost has increased a little faster than the benefits in this case.

Mr. RABAUT. Last year's justifications indicated that $1,271,600 would be used to initiate dredging and rock removal in area 8—Pralls Island to Tremley Point. These justifications indicate that this work will not be started until 1958. What happened there?

Colonel RENSHAW. Bids in that section were taken and we rejected them as being excessive.

Mr. RABAUT. Fine.

Mr. TABER. What is the status of your funds there? How much do you have left?

Colonel RENSHAW. We will have unobligated and unexpended balances of zero as of the first of the next fiscal year.

Mr. TABER. It will be used up?

Colonel RENSHAW. Yes.

Mr. TABER. You are going to increase your operation about 20 percent? What does that consist of?

Colonel RENSHAW. That is in the rock section, right in the middle of the channel.

Mr. TABER. How wide?

Colonel RENSHAW. Five hundred feet wide, sir.

Mr. TABER. I think that is all.

Mr. RABAUT. We had appropriations in the last 2 years for this project totaling $7 million. Is that correct?

Colonel RENSHAW. Yes.

Mr. RABAUT. $3 million one year and $4 million another?

Colonel RENSHAW. Yes.

Mr. RABAUT. The price increases of the last 2 years have been $3,900,000, over half the appropriated sum. These people better start looking at their books. Over half the appropriated sum went for price increases. In other words, we appropriate $7 million, but got only $3,100,000 closer to completion of the project, apparently because of increased cost of dredging.

(Discussion off the record.)

NORFOLK HARBOR

Mr. RABAUT. We will now take up the Norfolk Harbor, Va., project, and we will insert pages 37 through 40 in the record at this point.

(The pages referred to are as follows:)

NORFOLK HARBOR, VA. (WIDENING 40-FOOT CHANNEL AND CRANEY ISLAND ANCHORAGE)

(New)

Location.—Norfolk Harbor is at the southern end of Chesapeake Bay, 30 miles westerly from the entrance to Chesapeake Bay at Cape Henry. The portion of the project to be widened is located on the southeasterly and easterly side of the 40-foot channel from the 40-foot contour in Hampton Roads up Elizabeth River to a point just south of Hampton Roads Army terminal piers. The Craney Island anchorages are located south of Craney Island.

Authorization.—1954 River and Harbor Act.

Benefit-cost ratio.—Not evaluated.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (Corps of Engineers)	$5,160,000	
Estimated Federal cost (U. S. Coast Guard)	35,000	
Estimated Federal cost (U. S. Navy)	120,000	
Estimated non-Federal cost	60,000	
Cash contributions	0	
Other costs	60,000	
Total estimated project cost	5,375,000	
Appropriation to June 30, 1956	0	
Appropriation for fiscal year 1957	0	
Appropriation to date	0	0
Appropriation requested for fiscal year 1958	1,750,000	34
Balance to complete after fiscal year 1958	3,410,000	

PHYSICAL DATA

Channels.—An increase in project width of Norfolk Harbor 40-foot channel from 750 feet to 1,500 feet for a distance of approximately 6.4 miles; the elimination of the 30-foot, 22-foot, and 16-foot anchorages presently located south of Craney Island, and in lieu thereof, the construction of an anchorage 38 feet deep and 1,500 feet square, an anchorage 35 feet deep and 1,500 feet square, and an anchorage 20 feet deep, 1,000 feet wide, and 3,000 feet long.

Status (January 1, 1957: New start.
Completion schedule:
Widening 40-foot channel, December 1958.
Craney Island anchorages, May 1959.

JUSTIFICATION

Vessel traffic on Hampton Roads and Elizabeth River is subjected to fogs and high wind velocities. These natural hazards are intensified by congestion in the channel resulting from the movement of vessels to and from terminals and aggravated in recent years by the increase in the number, size, and draft of vessels, both naval and commercial. In 1955 the commerce on this waterway totaled nearly 36 million tons, exclusive of tonnage moved by the United States Navy, United States Army, and other Government agencies. The headquarters of the Atlantic Fleet and the fleet of the Supreme Allied Command Atlantic are maintained at Norfolk. In addition the Department of the Army maintains the Hampton Roads Army Terminal piers at Norfolk.

The existing 40-foot channel is no longer adequate for the safe accommodation of vessel traffic. In the past 10 years, collisions in this channel have caused damages to vessels totaling $1,221,000. Widening of the channel from 750 to 1,500 feet will greatly alleviate the hazards now attending navigation and insure more efficient operation and movement of vessel traffic. The improvement is especially important to the Navy to facilitate movement of naval units in adverse weather and particularly in times of emergency.

Fiscal year 1958.—The requested amount of $1,750,000 will be applied as follows:

Widening 40-foot channel:	
Initiate hopper dredging with Government plant	$650,000
Initiate hydraulic dredging by continuing contract	920,000
Engineering and design	22,000
Supervision and administration	158,000
Total	1,750,000

COMPLETED MODIFICATIONS, NORFOLK HARBOR, VA.

Work completed consists of a 750-foot width of the main 40-foot channel in Hampton Roads and the Elizabeth River, and various extensions in the Southern, Eastern, and Western Branches, and Scotts Creek, with supplemental anchorages and turning basins. The cost of this completed work is $6,532,000.

REMAINING AUTHORIZED MODIFICATIONS, NORFOLK HARBOR, VA.

Uncompleted modifications include the construction of Craney Island disposal area, and completion of the 35-foot channel in the Southern Branch of Elizabeth River. The total estimated cost of Craney Island disposal area is $6,530,000. Construction is currently under way and the work is about 70 percent complete. the 35-foot channel in the Southern Branch, with a total estimated cost of $1,280,000, is complete except for work at the Belt Line Railroad bridge having an estimated cost of $75,000.

Non-Federal cost.—Construction of the Craney Island anchorages will require the Commonwealth of Virginia to extinguish for the useful life of the project all oyster rights at and in the vicinity of the anchorages. The cost is estimated at $60,000.

The Hampton Roads Sanitation District Commission will be required to alter a sanitary sewer outfall lying within the area of widening of the 40-foot channel. This item is not a local cooperation requirement of the authorizing act, but local interests will bear the cost of alteration, estimated at $25,000, in accordance with the conditions of the Department of the Army permit covering the sewer.

Local interests also incurred costs of approximately $200,000 in complying with the requirements of local cooperation for previous work accomplished on the Norfolk Harbor project.

In addition, local interests have incurred costs of many millions of dollars in connection with the dredging of approach channels and berthing areas, and the construction of terminal facilities within the Norfolk Harbor area.

Other Federal cost.—The estimated cost to the United States Coast Guard for establishing and relocating aids to navigation in connection with the widening of the 40-foot channel and Craney Island anchorages is $35,000.

Also, in connection with the widening of the 40-foot channel, the Navy Department will be required to relocate a degaussing range lying at the bottom of the channel opposite the naval base. The estimated cost of this work is $120,000.

In addition to the Federal investment in the authorized project, Government agencies, principally the United States Navy, have invested many millions of dollars in dredging approach channels and berthing areas, and the construction of terminal facilities and shipyards within the Norfolk Harbor area.

Status of local cooperation.—None required for the 40-foot channel widening. Agreement on the part of the Commonwealth of Virginia to extinguish rights under existing leases to oyster grounds in the vicinity of the enlarged Craney Island anchorage requires action by the State legislature which convenes again early in calendar year 1958. No difficulty is anticipated in completing the required action in time for scheduled construction of this phase of the improvement in fiscal year 1959.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,160,000 is an increase of $90,000 from the latest estimate ($5,070,000) submitted to Congress. The net change results from an increase of $145,000 due to higher price levels and a reduction of $55,000 due to the application of the new sump rehandling equipment at Craney Island disposal area.

Mr. RABAUT. This is a new project that the committee has not had hearings on before, so please describe it briefly for us.

Colonel RENSHAW. This project was authorized in 1954. The 1954 act authorized an increase in the project width of the 40-foot channel from 750 feet to 1,500 feet for a distance of approximately 6.4 miles, and the reconstruction of anchorage areas in the vicinity of Craney Island.

Mr. RABAUT. What is the Navy going to contribute toward this project? It see that their cost will be $120,000.

Colonel RENSHAW. They are going to have to change their degaussing range, which is in part of the channel where we are increasing the width.

Mr. RABAUT. There is no benefit-cost ratio calculated.

Colonel RENSHAW. No, sir.

Mr. RABAUT. According to the justifications, this project is to remove hazardous conditions existing because of the increased number, size,

and draft of naval and commercial vessels using the harbor; is that correct?

Colonel RENSHAW. That is correct.

Mr. RABAUT. How does the number using the harbor now compare with the number during World War II? Do you have that figure?

Colonel RENSHAW. I do not think I have that figure.

Mr. RABAUT. Suppose you supply the answer for the record.

Colonel RENSHAW. Yes, sir.

(The requested information follows:)

There were 35,930,337 tons in 1955 compared to 12,743,229 tons in 1942, 10,741,862 tons in 1943, 13,710,510 tons in 1944; and 14,447,348 tons in 1945. All of the above tonnages exclude military traffic.

INCREASE IN MAINTENANCE COSTS

Mr. RABAUT. How much will this project increase the cost of maintaining Norfolk Harbor?

Colonel MCCARTY. $334,000 is the additional average annual maintenance cost for the widened channel and anchorages.

Mr. RABAUT. Do you know what the maintenance cost is now?

Colonel MCCARTY. No, I do not.

Mr. RABAUT. Supply that for the record.

(The requested information follows:)

The cost of maintenance was $440,773 in 1956 and averaged $272,800 between 1947 and 1956.

Mr. RABAUT. Why does the increase in cost run as high as that? How do you arrive at that figure?

Colonel MCCARTY. That is based on an estimated removal of 767,000 yards annually, sir.

Mr. TABER. This puts a 40-foot channel up in the Elizabeth River?

Colonel RENSHAW. Yes, sir.

Mr. TABER. Why do they need the channel? What do they have now?

Colonel RENSHAW. They have 40 feet now, sir.

Mr. TABER. This is an enlargement of the channel?

Colonel RENSHAW. A widening of that channel from 750 to 1,500 feet.

Mr. TABER. Why is that necessary?

Colonel RENSHAW. Because of the great increase in the number of ships using this waterway. There are conditions of fog and wind down there that make it dangerous with only a 750-foot width.

Mr. TABER. Is there considerable tonnage in that territory?

Colonel RENSHAW. Yes, sir.

Mr. TABER. What does it amount to?

Colonel RENSHAW. In 1955 it ran 36 million tons.

Mr. TABER. How does that compare with 1954?

Colonel RENSHAW. It has risen very rapidly. The year before it was 26 million. It went from 26 million to 36 million, and that reflects a great increase in the tonnage of coal going to European ports. Most of it leaves from the Norfolk area.

Mr. TABER. That is all.

Mr. RABAUT. Has any suggestion ever been made by the engineers in the Norfolk area that those people might throttle their boats down a little more and try to save some of the banks from washing in? Is that a place where the boatmen are trying to show their skill?

Colonel RENSHAW. They are operating pretty cautiously.

Mr. RABAUT. When we get the information that it is going to cost us over $300,000 more for maintenance, it makes us wonder about such things.

WATERWAY ON THE COAST OF VIRGINIA

Mr. RABAUT. The next project is the "Waterway on the coast of Virginia," and we will insert pages 43 through 46 in the record at this point.

(The pages referred to are as follows:)

WATERWAY ON THE COAST OF VIRGINIA

(Continuing)

Location.—The waterway lies between the barrier beach along the Atlantic Ocean on the east and the Virginia portion of the mainland peninsula on the west. It extends from the south end of Chincoteague Bay through a number of creeks, thoroughfares, and bays, to enter Chesapeake Bay in the vicinity of Fishermans Inlet, just south of Cape Charles, the southern tip of the peninsula.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—2.50 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (Corps of Engineers)	$750,000	
Estimated Federal cost (U. S. Coast Guard)	30,000	
Estimated non-Federal cost	5,000	
Cash contribution	0	
Other costs	5,000	
Total estimated project cost	785,000	
Appropriations to June 30, 1956	98,000	
Appropriations for fiscal year 1957	300,000	
Appropriations to date	398,000	53
Appropriations requested for fiscal year 1958	352,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channels: About 20 miles of channel, 6 feet deep and 60 feet wide over 83 miles of inland wterway from Chesapeake Bay to Chincoteague Bay.

Status (January 1, 1957):

Chincoteague Bay to Assawaman Inlet: Not started. Completion schedule: June 1958.

Northams Narrows to Gargathy Narrows: Completed.

Metomkin Bay to Little Machipongo Inlet: Not started. Completion schedule: June 1957.

Little Machipongo Inlet to Fisherman Inlet: Not started. Completion schedule: June 1956.

JUSTIFICATION

The waterway on the coast of Virginia is of vital importance to the large seafood industry that centers about Chincoteague, Va. Approximately 500 boats, with drafts ranging from 3 to 4 feet navigate the waterway regularly, carrying oyster tongers and clammers and their cargoes. In addition, the mackerel fleet, consisting of approximately 40 boats with drafts ranging from 4 to 5 feet, uses portions of the inland waterway route when adverse weather conditions make navigation on the open waters of the Atlantic Ocean hazardous. During periods of storm, the fleet enters the waterways by way of the most convenient inlet. The boats cannot in all instances proceed along the sheltered route to their destination, because the waterway is not navigable in its entirety to these vessels even when abnormally high tidal conditions prevail. Operators of the

fleet boats are obliged to limit their use of the waterway to the disconnected reaches where adequate depths are available. Commercial statistics for 1955 show that more than 34,800 vessel trips were made over the route in each direction. The inadequate existing depths in the waterway make navigation hazardous and difficult. Although some advantages are afforded during periods of high tide, navigation over the waterway is critically affected during periods of ordinary and extreme low waters. The delays and hardships encountered while awaiting favorable tides would be eliminated by completion of the proposed improvement.

In addition to increasing the efficiency and well-being of those engaged in the seafood industry, the improvement would be of considerable benefit to pleasure boat operators. Pleasure boats en route to southern waters from points along the coasts of New Jersey and New York usually enter the Delaware Bay at Cape Henlopen and proceed as far as Norfolk via the Delaware River, the Chesapeake and Delaware Canal, and the Chesapeake Bay. The distance from the Delaware breakwater to Norfolk via the above route is about 250 miles. The proposed improvement, if completed, would enable many of these pleasure boats to enter Ocean City Inlet, use the present improved and natural channels in Sinepuxent and Chincoteague Bays, traverse the waterway on the coast of Virginia for its entire length, and cross the lower end of Chesapeake Bay to Norfolk. The distance from the Delaware breakwater to Norfolk via the above route is about 160 miles, a saving in distance of about 90 miles.

Fiscal year 1958.—Provide a channel 6 feet deep and 60 feet wide from Chincoteague Bay to Assawaman Inlet and from Little Machipongo Inlet to Fisherman Inlet.

Initiate and complete dredging	$314,000
Engineering and design	11,500
Supervision and administration	26,500
Total	352,000

About 9 miles of channel dredging will be performed to complete the project by providing improved channel dimensions in the remaining 40 miles of the waterway at the upper and lower ends of the project.

COMPLETED MODIFICATIONS—CAT RIVER AND BOGUES BAY

Work completed consists of a channel 4 feet deep and 25 feet wide in Cat River, a distance of 2 miles, thence northward across Bogues Bay 50 feet wide for an additional distance of one-half mile. The cost of this completed work is $9,000.

REMAINING AUTHORIZED MODIFICATIONS

None.

Non-Federal costs.—The costs to local interests of complying with the requirements of local cooperation as set forth in the authorizing legislation are estimated to be $5,000, principally for legal fees for conveying title to State-owned marsh lands.

Status of local cooperation.—The Board of Supervisors of Accomack County, Va., adopted a resolution on November 9, 1956, assuring the United States that the requirements of local cooperation will be furnished for all work to be performed in that county. Local interests are actively acquiring the rights-of-way needed for the portion of the project in Accomack County.

In Northampton County required easements and rights-of-way are being acquired and it is anticipated that the county board of supervisors will furnish a resolution assuring the United States on all requirements for local cooperation by the time work is proposed to be started in that county.

Most of the work to be performed in Accomack County will be accomplished in fiscal year 1957. The work to be performed in Northampton County will be accomplished in fiscal year 1958.

Comparisons of Federal cost estimate.—No change from the latest estimate submitted to Congress ($750,000).

Mr. RABAUT. What is the current status of local cooperation?

Colonel RENSHAW. It has been fully complied with.

Mr. RABAUT. Everything is satisfactory?

Colonel RENSHAW. On this project, sir, I would like to mention at this time that we have an increase in the total cost of $750,000 to $1,100,000.

Mr. RABAUT. You are going to be $350,000 short in finishing this project?

Colonel RENSHAW. Yes.

Mr. RABAUT. What causes that?

Colonel RENSHAW. We just made a poor estimate on the dredging there.

Mr. RABAUT. Did you make a real attempt to hold the cost down when you let the job out?

Colonel RENSHAW. This was the result of the bids taken.

Mr. RABAUT. And you think that you estimated it too low?

Colonel RENSHAW. Yes.

ALTERATION OF NORFOLK & PORTSMOUTH BELT LINE RAILROAD BRIDGE

Mr. RABAUT. If there are no questions we will take up the next project, the alteration of the Norfolk & Portsmouth Belt Line Railroad bridge. We will insert pages 49, 50, and 51 in the record at this point.

(The pages referred to are as follows:)

ALTERATION OF NORFOLK & PORTSMOUTH BELT LINE RAILROAD BRIDGE, NORFOLK HARBOR, VA.

(Continuing)

Location.—The Norfolk & Portsmouth Belt Line Railroad bridge crosses the Southern Branch of the Elizabeth River 2 miles above the junction with the Eastern Branch and about 1,350 feet downstream from the highway toll bridge connecting Portsmouth and South Norfolk, Va.

Authorization.—Act of June 21, 1940 (Truman-Hobbs Act).

Benefit-cost ratio.—Not applicable.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$2,340,000	
Estimated non-Federal cost	390,000	
Cash contribution	0	
Other costs	390,000	
Total estimated project cost	2,730,000	
Appropriations to June 30, 1956	800,000	
Appropriations for fiscal year 1957	1,000,000	
Appropriations to date	1,800,000	77
Appropriations requested for fiscal year 1958	300,000	90
Balance to complete after fiscal year 1958	240,000	

PHYSICAL DATA

Vertical lift span: 383 feet long.
Horizontal clearance: 300 feet.
Vertical clearances:
    Fully raised: 145 feet above mean low water.
    Lowered: 14.5 feet above mean low water.
Status (Jan. 1, 1957):
    Construction of substructure of new bridge: 25 percent.
    Contract for superstructure of new bridge initiated.
Completion schedule:
    Substructure: June 1957.
    Superstructure: October 1958.

JUSTIFICATION

Under existing conditions there is the grave possibility of accidents involving this bridge and the highway bridge next upstream. The current navigation hazards at the railroad bridge, and the possibility of operational failure of vessels or tugs, present a serious situation that could easily cause another major accident which could be very detrimental in temporarily halting movements of naval vessels to and from important Navy terminals upstream from the bridge, including the operation of ammunition barges to and from the St. Julian ammunition depot. Also, temporary blocking of the 35-foot channel in the Southern Branch would seriously affect commercial shipping activities in the port of Norfolk. Twenty-eight companies, including seven major oil companies and eleven fertilizer companies, are located upstream from the bridge and are operationally dependent upon the use of vessels in foreign and coastwise trade. In 1955, the commercial traffic through the bridge totaled 7,717 passages by vessels transporting over 4,700,000 tons of commerce.

Previous major accidents involving this bridge, which occurred in 1939 and 1943, caused damages totaling $440,000 to the highway bridge next upstream and from partial to total blocking of the channel. Since 1943, 49 minor accidents have occurred at the railroad bridge, resulting in damages totaling about $40,000. Extraordinary precautions, i. e., special pilot service and additional tugs, have been used for many years to facilitate movements of large ships through the railroad bridge and the highway bridge next upstream, representing an additional annual cost of $300,000 to shipping interests. Supertankers, 542 feet long, 75 feet beam, and drawing 34 feet are now being moved through the existing obstructive bridge with great difficulty and effort, with such movements accomplished only under the most favorable conditions.

Another important benefit would result from the alteration of the subject bridge, i. e., the ability of hopper dredges to perform maintenance dredging on the 35-foot channel in the Southern Branch. Because of the hazards of operating large hopper dredges through the narrow and misalined drawspan of the bridge, dredging must be largely accomplished with a bucket dredge until such time as the bridge is altered. Based upon average annual channel fill of 146,000 cubic yards, it is estimated that the annual saving to the Federal Government by using a hopper dredge for maintenance rather than bucket dredge would amount to about $100,000.

Fiscal year, 1958.—The requested amount of $300,000 will be applied toward the Federal share of continuation of the bridge alteration. The work in progress by the bridge owners will consist of erection of superstructure metal work, laying track, installation of signal system, and construction of fenders for the new bridge. The funds requested are necessary to provide for an orderly and economical rate of construction with completion of the project in fiscal year 1959 as scheduled.

Non-Federal costs.—The cost to local interests (bridge owners) pursuant to the Truman-Hobbs Act is estimated at $390,000.

Maintenance of the completed structure will be performed by and at the expense of the bridge owners. The annual cost of maintenance is estimated at $15,000.

Status of local cooperation.—In complying with the provisions of the Truman-Hobbs Act, the bridge owners have contracts for construction of the bridge substructure and superstructure and are acquiring lands and rights-of-way on property not presently owned by them.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2,340,000 is an increase of $455,000 over the latest estimate ($1,885,000) submitted to Congress due primarily to receipt of high bids for the superstructure, together with minor refinements in the estimate for other work items and Government costs.

STATEN ISLAND RAPID TRANSIT RAILWAY CO. BRIDGE

Mr. RABAUT. We will now take up the Staten Island Rapid Transit Railway Co. bridge, and we will insert pages 54, 55, and 56 in the record at this point.

(The pages referred to are as follows:)

STATEN ISLAND RAPID TRANSIT RAILWAY CO. BRIDGE, NEW YORK AND NEW JERSEY

(Continuing)

Location.—This bridge crosses Arthur Kill, a portion of the New York and New Jersey Channels navigation project, and connects Elizabeth, N. J., with Staten Island, N. Y.

Authorization.—Act approved June 21, 1940 (Truman-Hobbs Act).

Benefit-cost ratio.—Not applicable.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$8,160,000	
Estimated non-Federal cost	1,670,000	
Cash contribution	0	
Other costs	1,670,000	
Total estimated project costs	9,830,000	
Appropriations to June 30, 1956	1,000,000	
Appropriations for fiscal year 1957	1,800,000	
Appropriations to date	2,800,000	34
Appropriations requested for fiscal year 1958	1,700,000	55
Balance to complete after fiscal year 1958	3,660,000	

PHYSICAL DATA

Bridge: Type, vertical lift.
Clearance:
Vertical:
31 feet above mean high water closed.
135 feet above mean high water raised.
Horizontal: 500 feet.

Status (Jan. 1, 1957)

Bridge alterations	Percent	Completion schedule
Substructure	[1] 38	June 1957.
Superstructure	[2]	June 1959.
Removal of existing structures	[2]	Do.
Work by railroad forces (powerlines, waterlines, trackwork, signals, etc.)	[1] 13	Do.
Entire project	[1] 10	Do.

[1] Completed.
[2] Not started.

JUSTIFICATION

The continued existence of the present bridge constitutes a threat to navigation on this waterway. The existing bridge crossing Arthur Kill is outmoded, and its limited clearance and location on a bend in the channel make for very hazardous operation of the very large modern tankers transiting the channels. During the past 23 years over 100 accidents are reported to have occurred at the bridge. Its possible destruction by collision with one of these tankers would close the waterway until its removal could be accomplished. The threat of fire in the event of such a collision by a loaded tanker is real and would endanger one of the laregst concentrations of petroleum refining and storage centers in the world. In addition, destruction of the bridge would close off the major transportation route and the only direct rail link between the mainland and Staten Island, a borough of the city of New York. With the altered bridge providing an opening of 500 feet, the bridge will be fully adequate for traffic on the waterway, and the hazards to navigation, industry, and transportation service removed.

New work dredging presently in progress in Arthur Kill will result in provision of increased channel dimensions necessitated by the increasing size of petroleum

tankers transiting the waterway. Failure to accomplish the replacement as proposed will aggravate and prolong the increasingly critical condition presented by the inadequacy of the present structure.

Fiscal year 1958.—The requested amount of $1,700,000 will be applied toward the Federal share for construction of the bridge alteration. The work in progress by the bridge owners will consist of fabrication and erection of the superstructure and incidental hired labor work. The funds requested are necessary to provide for an orderly and economical rate of construction of the project with completion fiscal year 1959 as scheduled.

Non-Federal costs.—The cost to the bridge owners with the requirements of the Truman-Hobbs Act is estimated at $1,670,000 and is for the bridge owner's share of the cost of alteration.

Local interests also are required to maintain and operate the altered bridge upon completion. The annual cost for maintenance and operation is estimated at $34,200.

Status of local cooperation.—In complying with the provisions of the Truman-Hobbs Act, the bridge owners have provided necessary rights-of-way, undertaken construction of the substructure and awarded the contract for the superstructure.

Comparison of Federal cost estimate.—The current Federal cost estimate of $8,160,000 is an increase of $180,000 over the latest estimate ($7,980,000) submitted to Congress. The net change results from an increase of $258,000 due to higher price levels, and a reduction of $78,000 due primarily to a reevaluation of supervision and administration requirements, based on costs experienced for projects of this type and magnitude.

CUMBERLAND, MD., AND RIDGELEY, W. VA.

Mr. RABAUT. We will now take up the Cumberland, Md., and Ridgeley, W. Va., project, and we will insert pages 59 through 62 in the record at this point.

(The pages referred to are as follows:)

CUMBERLAND, MD., AND RIDGELEY, W. VA.

(Continuing)

Location.—Allegany County in Maryland and Mineral County, W. Va., along Wills Creek and North Branch of Potomac River, 21 miles above the junction of the North Branch and South Branch, which form the Potomac River.

Authorization.—1936, 1938 and 1946 Flood Control Acts.

Benefit-cost ratio.—1.51 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$14,700,000	
Estimated non-Federal cost	2,780,000	
Cash contributions	0	
Other costs	2,780,000	
Total estimated project cost	17,480,000	
Appropriations to June 30, 1956	7,739,000	
Appropriations for fiscal year 1957	3,400,000	
Appropriations to date	11,139,000	76
Appropriations requested for fiscal year 1958	2,500,000	93
Balance to complete after fiscal year 1958	1,061,000	

PHYSICAL DATA

Levees:
Average height: 15 feet.
Length: 13,000 feet.
Floodwalls:
Average height: 14 feet.
Length: 1,600 feet.
Relocations:
Western Maryland Railway: 0.50 mile.
Baltimore & Ohio Railroad: 0.25 mile.
Western Maryland Railway bridge.
Dam: Reconstruction of existing industrial dam.
Channels:
Improvement 1.7 miles along North Branch, Potomac River.
Improvement 1.6 miles along Wills Creek.
Pumping plants: Three pumping plants with attendant interceptor sewers.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Lands and damages	70	October 1958.
Relocations	0	November 1958.
Dams	100	
Channels:		
Wills Creek, section 1	100	
Wills Creek, sections 2 and 3	45	November 1957.
Wills Creek, section 4	15	December 1958.
Potomac River, sec. 1	90	July 1957.
Potomac River, sec. 2	0	December 1958.
Levees and floodwalls	83	July 1958.
Pumping plants	15	November 1957.
Buildings, grounds, and utilities	100	
Entire project	58	December 1958.

JUSTIFICATION

The project will protect the principal business, industrial, and residential areas of Cumberland, Md., and Ridgeley, W. Va., against recurring floods on the North Branch of the Potomac River and Wills Creek. The floods of 1924 and 1936 caused damages amounting to $4 million and $2,364,000, respectively. A recurrence of the 1924 and 1936 floods, under present conditions of development in the flood plain, would cause damages estimated at $12,850,000 and $8 million, respectively. Annual flood-control benefits for the project are estimated at $1,011,400. Completion of the project at an early date is needed to prevent recurring flood losses.

Fiscal year 1958.—The requested amount of $2,500,000 will be applied to—

Continue acquisition of lands	$60,500
Continue railroad relocations	700,000
Continue channel improvements	1,332,500
Complete levees and floodwalls	64,000
Complete pumping plants	154,800
Engineering and design	4,100
Supervision and administration	184,100
Total	2,500,000

The requested amount provides for minimum orderly progress on construction.

Non-Federal cost.—The initial investment required of local interests in construction of the authorized project is estimated at $2,780,000, broken down as follows:

Lands (61 acres)	$1,000,000
Relocation of utilities, sewers, etc	862,000
Industrial dam	235,000
Bridges (3)	683,000
Total	2,780,000

Of this amount, the city of Cumberland has expended to date approximately $2,365,000 for the acquisition of lands, the reconstruction of the industrial dam, the relocations of utilities and sewers, and the reconstruction of highway bridges.

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $44,000.

In addition, local interests advise that they have incurred costs of $198,000 for the construction of flood-control works prior to initiation of construction of the authorized Federal improvement.

Status of local cooperation.—The city of Cumberland, Md., and the town of Ridgeley, W. Va., have given assurances that all requirements of local cooperation will be supplied. Rights-of-way have been furnished as required for construction performed to date. Approximately 90 percent of the total project requirement has already been met, and the balance for project completion is expected to be available by the end of fiscal year 1957. Thus far, local interests have expended approximately $2,365,000 for lands and required modifications of utilities and bridges, and have accepted maintenance of completed portions of the project.

Comparison of Federal cost estimate.—The current Federal cost estimate of $14,700,000 is a net decrease of $200,000 from the latest estimate ($14,900,000) submitted to Congress. Lands and damages were reduced by $156,000, based on reevaluation of requirements. The balance of the reduction is based primarily on bids received, together with minor price-level adjustments on uncommitted work. Major changes were as follows: Relocations were increased $157,000, channel-improvement work was reduced $190,000, pumping-plant costs were reduced $58,000, and engineering and design costs were increased by $62,000, based on a reanalysis of requirements. Minor changes on other features of work resulted in a further reduction of $15,000.

Mr. RABAUT. What is the reason for the reduction in the request for this project from $2,500,000 to $2 million?

Colonel RENSHAW. During the past year this project was hurt, first, by the steel strike which slowed down the delivery of steel, and, second, we had some abnormal streamflow that stopped the contractor work for a considerable period of time.

Mr. RABAUT. That is the cause?

Colonel RENSHAW. Yes.

Mr. RABAUT. We would be anxious to get it completed when we are that close to completion.

Colonel RENSHAW. Yes.

ENDICOTT, JOHNSON CITY, AND VESTAL

Mr. RABAUT. We will now take up "Endicott, Johnson City, and Vestal, N. Y.," project, and we will insert pages 66 through 69 of the justifications in the record at this point.

(The pages referred to are as follows:)

ENDICOTT, JOHNSON CITY AND VESTAL, N. Y.

(Continuing)

Location.—On the North Branch of the Susquehanna River, approximately 195 miles above the confluence with the West Branch at Sunbury, Pa., and about 320 miles above the mouth of the Susquehanna River at Havre de Grace, Md., which is at the head of Chesapeake Bay.

Authorization.—1954 Flood Control Act.

Benefit-cost ratio.—1.62 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$5,100,000	
Estimated non-Federal cost	1,036,000	
Cash contribution	0	
Other costs	1,036,000	
Total estimated project cost	6,136,000	
Appropriations to June 30, 1956	180,000	
Appropriations for fiscal year 1957	1,030,000	
Appropriations to date	1,210,000	24
Appropriations requested for fiscal year 1958	1,400,000	51
Balance to complete after fiscal year 1958	2,490,000	

Physical data

	Endicott	West Endicott	Vestal	Westover
Levees:				
Average height, in feet	16	15	12	16
Length, in feet	3,294	8,565	15,365	5,305
Concrete walls: Length, in feet	2,216		201	235
Channel (in feet)		[1] 1,815	[2] 5,500	[3] 500 [2] 4,057
Appurtenant work:				
Drainage structures	5	8	7	4
Closure structures		1	1	5

[1] Cutoff.
[2] Clearing.
[3] New.

Status (January 1, 1957): Not started.
Completion schedule:
Endicott units: June 1958.
Westover unit: December 1957.
West Endicott and Vestal units: June 1959.
Entire project: June 1959.

JUSTIFICATION

Since preparation of the survey report in 1948, the Endicott-Westover-Vestal area has grown with the general population increase. Existing industries have increased production; new industries have located in the area; considerable residential building has occurred, particularly in Vestal and along Nanticoke Creek in West Endicott; and highway, commercial and other civic and private expansion has taken place. The trend of development can be expected to continue and it is anticipated that the authorized project will have a decided influence on the region's economy by the elimination of the serious flood problem. Since 1865, 19 major floods have been reported in the area. The greatest flood of modern record (1936) flooded developed areas in Endwell, in the central section of Endicott and West Endicott, and along the North Branch Susquehanna River in Vestal, where almost the entire developed area was covered. Flood damages for the 1936 occurrence are estimated at about $3.3 million. Subsequent to 1936, three major floods occurred of which the 1948 flood caused about $1.9 million in damages at current prices. The project provides protection against a design flow of 126,000 cubic feet per second, and will be equivalent to that already provided for the neighboring city of Binghamton.

This area has a very serious flood problem and early completion of the project is essential to prevent serious recurring flood damages to the affected communities having a population of about 95,000 people. It has been estimated that recurrence of flood conditions today will cause a loss in payroll and production close to $1 million a day. The possible loss of life and danger to health, as well as losses in payroll and plant, warrants immediate protection for this area.

ENDICOTT, JOHNSON CITY, AND VESTAL, N. Y.

Fiscal year 1958.—The requested amount of $1,400,00 will be applied to:

Endicott unit: Complete construction of levees and floodwalls under the continuing contract initiated in fiscal year 1957	$629, 000
Westover unit: Complete construction of levees, drainage facilities, and channel excavation and clearing under the continuing contract initiated in 1957	492, 000
West Endicott and Vestal units: Initiate a continuing contract for construction of levees, drainage facilities, and excavation of a cutoff channel	150, 000
Engineering and design	12, 000
Supervision and administration	117, 000
Total	1, 400, 000

The recommended program for fiscal year 1958 will complete construction of the Endicott and Westover units and initiate construction of the remaining improvement for West Endicott and Vestal. The completed construction will provide substantial incremental benefits by eliminating flood damages in these areas. The funds requested are the minimum necessary to carry on construction at an orderly and economical rate of progress with assurance of timely completion of the overall project.

Non-Federal costs.—The initial investment required of local interests in construction of the authorized project is estimated at $1,036,000 broken down as follows:

Lands and damages	$572, 000
Relocations: Sewers	64, 000
Pumping stations and road ramp over levee	400, 000
Total	1, 036, 000

Local interests are required to maintain and operate the project upon completion. The annual cost for maintenance and operation is estimated at $20,200.

Status of local cooperation.—Assurances of local cooperation for the project were executed by the State of New York on September 21 1956. The village of Endicott has also adopted a resolution assuming responsibility for construction of municipally owned utilities. Acquisition of lands, easements, and rights-of-way for the project is currently underway and will be furnished by the State progressively as required for construction operations. The State has advised that acquisition for the first two units of the project at Endicott and Westover is nearing completion and will be available in ample time to meet the scheduled bid opening dates later in fiscal year 1957.

Comparison of Federal cost estimate.—The current Federal cost estimate of $5,100,000 is an increase of $260,000 over the latest estimate ($4,840,000) submitted to Congress. The increase is due primarily to higher price levels.

Mr. RABAUT. Why was not this project started by January 1?

Colonel RENSHAW. We awarded the bids in December on this work, sir. We awarded the Endicott unit on December 28, 1956, and the Westover unit on December 31 of that year, so the work is underway now.

EXTENSION OF PROJECT IN WESTOVER AREA

Mr. TABER. Why did you extend this project up into that Westover area for the benefit of this fellow that built that shopping center in that territory? That is what brought you above the original authorization?

Colonel RENSHAW. Yes. That was a refinement to take care of work that was going on while the project was being authorized. We have refined this job.

Mr. TABER. They got into that job after the project was authorized a long time.

Colonel RENSHAW. That is right.

Mr. TABER. Why did you extend it then? You have gone ahead and enlarged the project for their benefit. I wonder why you did it.

Mr. RABAUT. What is your view on that? What do you have to say about that?

Colonel RENSHAW. Mr. Chairman, we adjust these to meet the requirements of the job as the community develops.

Mr. RABAUT. Is that quite a community there?

Colonel RENSHAW. Yes; there is quite a little shopping center they put in.

Mr. TABER. What was the extra cost?

Colonel RENSHAW. Due to that item?

Mr. TABER. Yes.

Colonel RENSHAW. I do not have that project broken down.

Mr. JAENICHEN. The extension on the map looks as if it is a great change. However, the levee is low and wraps around the fill of the shopping center and we will actually spend little money on that extension. It looked foolish to us to leave it out. Furthermore, it accomplished one great gain. It permitted us to come out with a better closure structure on the highway.

Mr. TABER. Those people right now are in the process of trying to hold up the State of New York for about twice what the shopping center cost for a right-of-way there for something that is being done for their benefit. I know that is going on. You must know about it, too.

Mr. RABAUT. What is the situation with regard to the right-of-way? Do you know?

Colonel RENSHAW. I am not familiar with that detail.

Mr. JAENICHEN. The only thing is that the owner and the State are trying to reach an agreement on the use of part of that area for interior ponding which would reduce the cost to the State since pumping stations are to be provided by local interests. It is entirely a problem between the owner and the State.

Mr. TABER. You are doing that for the benefit of this fellow and he is trying to turn around and make a profit out of the job by holding up the State.

Mr. RABAUT. If this highway goes through there, will that be the end of the shopping center, or does this highway go through their parking area or something like that?

Mr. JAENICHEN. The highway passes right along the railroad. In the original alinement of levees we had a large closure structure there, a very expensive structure. The extension permitted us to ramp the highway and omit that closure. The differential in cost on this extension was very minor.

Mr. RABAUT. Will this shopping center be able to remain if they move this highway they are talking about putting through there?

Mr. JAENICHEN. They are nearly at the flood elevation. They could have been left out, but it did not look like it made sense.

Mr. RABAUT.. I am still asking this question, are they going to leave the shopping center there if they put the highway through?

Mr. JAENICHEN. Yes.

Mr. RABAUT. The shopping center is going to remain?

Mr. JAENICHEN. Yes.

Mr. RABAUT. The people who go to the shopping center will be benefited by this?

Mr. JAENICHEN. Yes.

Mr. RABAUT. There seems to be some conflict between the owners of the property and the State of New York with regard to the price; is that it?

Mr. JAENICHEN. That is correct.

Colonel MCCARTY. That is the price of the rights-of-way.

Mr. RABAUT. Do you know the situation? Do the rights-of-way go through the parking lots, or through the buildings?

Colonel MCCARTY. Through the parking lot. That is my understanding.

ALLENTOWN

Mr. RABAUT. We will now take up the Allentown, Pa., project, and we will insert pages 72, 73, and 74 of the justifications in the record at this point.

(The pages referred to are as follows:)

ALLENTOWN, PA.

(New)

Location.—Allentown is located in Lehigh County on the Lehigh River, 17 miles above its mouth and 60 miles below Bear Creek Reservoir.

Authorization.—1946 Flood Control Act.

Benefit-cost ratio.—1.1 for 1 for Lehigh River system.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$2,210,000	
Estimated non-Federal cost	53,000	
Cash contribution	0	
Other costs	53,000	
Total estimated project cost	2,263,000	
Appropriations to June 30, 1956	150,000	
Appropriations for fiscal year 1957	70,000	
Appropriations to date	220,000	10
Appropriation requested for fiscal year 1958	700,000	42
Balance to complete after fiscal year 1958	1,290,000	

PHYSICAL DATA

Channel relocation: 8,700 feet.
Levees and dike: 2,300 feet.
Status (Jan. 1, 1957): New start.
Completion schedule:
Channel relocation: June 1959.
Levees and dike: June 1958.
Entire project: June 1959.

JUSTIFICATION

The Allentown project is an integral unit of the Lehigh River Basin plan which also includes Bear Creek Reservoir and the local protective works at Bethlehem. This project supplemented by upstream reservoir control is designed to provide the optimum of protection to approximately 350 acres of commercial, industrial, and residential properties within the city limits of Allentown. About 80 percent of this area is occupied by commercial and industrial establishments, the balance by utilities and residences. There are approximately 30 large industries, 50 small-business establishments, 200 residences and 5 hotels within the area. Industries within the flood plain manufacture miscellaneous products, consisting mostly of machinery, steel products, and textiles. The population of Allentown is 106,200 (1950 census).

The flood of August 1955 caused damages amounting to $1,690,000 in Allentown. It is estimated that $1,100,000 of these damages would have been prevented had the Bear Creek Reservoir and the Allentown project been in operation.

Fiscal year 1958.—The requested amount of $700,000 will be used to initiate work on the project, as follows:

Initiate channel excavation	$500,000
Initiate construction of training dike	34,000
Initiate construction of levee	99,000
Initiate work on drainage facilities	6,000
Engineering and design	10,000
Supervision and administration	51,000
Total	700,000

Non-Federal costs.—The investment required of local interests in construction of the project is estimated at $53,000, itemized as follows:

Lands and damages	$7,000
Relocations (utilities)	32,000
Engineering and design	5,000
Supervision and administration	9,000
Total	53,000

Status of local cooperation.—Local interests have expressed approval of the project and indicated that local cooperation would be forthcoming. At a meeting of local officials with the chief of engineers of the State department of forests and waters in Allentown on October 30, 1956, the city was assured that the State would furnish one-half the necessary funds. The city council voted to assume the remaining costs. The city council also passed a resolution that local interests will give assurances to hold and save the United States free from claims for damages arising from the work. Formal assurances were requested on November 9, 1956 and no difficulty is anticipated in this regard.

Comparison of Federal cost estimate.—The current Federal cost estimate of $2,210,000 is an increase of $80,000 over the latest estimate ($2,130,000) submitted to Congress. An increase of $100,000 is due to higher price levels and a decrease of $20,000 is due to a reanalysis of the costs for supervision and administration.

Mr. RABAUT. This is another unit in the Lehigh Valley system for which the benefit-cost ratio had gone down from 1.2 to 1.1 and now back up to about 1.3 to 1. When Bear Creek Reservoir is completed, what will be the benefit cost-ratio of Allentown as a single unit?

Colonel RENSHAW. As we discussed the matter in the case of Bethlehem previously, we do not have that separate. I will have to supply it for the record.

(Information on separate benefit-cost ratios for the three projects in the system appears on p. 283.)

Mr. RABAUT. What is the reason for the reduction in the 1958 request from $700,000 to $350,000? The amount expended up to 1957 in the sum of $220,000 was in the planning stage; is that right?

Colonel RENSHAW. Yes.

Mr. RABAUT. And this is the first construction money?

Colonel RENSHAW. That is right.

Mr. RABAUT. What was really the cause for it?

Colonel RENSHAW. Our experience is that we just did not get started on these local projects as quickly as we thought we would. We do not expect to be really going until about the first of the year on this.

Mr. RABAUT. Do you want us to make that a general rule in giving the money for local protection projects?

Colonel RENSHAW. We are trying to take these delays into account ourselves.

BEAR CREEK RESERVOIR

Mr. RABAUT. We will now take up the Bear Creek Reservoir, Pa., project, and we will insert pages 77, 78, and 79 of the justifications in the record at this point.

(The pages referred to are as follows:)

BEAR CREEK RESERVOIR, PA.

(Continuing)

Location.—On Lehigh River, in Carbon and Luzerne Counties, Pa.; 5 miles northeast of White Haven, Pa.

Authorization.—1946 Flood Control Act.

Benefit-cost ratio.—1.1 to 1 for Lehigh River system.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$18,200,000	
Estimated non-Federal cost	0	
Total estimated project cost	18,200,000	
Appropriations to June 30, 1956	822,000	
Appropriation for fiscal year 1957	2,250,000	
Appropriations to date	3,072,000	17
Appropriation requested for fiscal year 1958	3,700,000	37
Balance to complete after fiscal year 1958	11,428,000	

PHYSICAL DATA

Dam:
Type: Earth fill.
Height: 234 feet.
Length: 3,000 feet.

Spillway:
Type: Concrete Ogee.
Capacity: 144,000 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Flood control	108,000
Conservation pool	2,000
Total	110,000

Outlet:
Tunnel in rock, gate controlled.
Capacity: 10,000 cubic feet per second.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Land acquisition	6	Entire project: December 1960.
Relocations	(1)	Land acquisition: June 1960.
Outlet works	42	Relocations: May 1960.
Dam	(1)	Outlet works: November 1958.
Entire project	8	Dam: December 1960.

[1] Not started.

JUSTIFICATION

This reservoir will control the runoff from a drainage area of 288 square miles. A large number of industrial plants, including the Bethlehem steel mills at Bethlehem, are located in the flood plain of the Lehigh River. A large percentage of these plants are on defense work and a major flood would have a serious effect on production at the plants. In the flood of May 1942 the Bethlehem steel plant, an important unit in the war production program, was inundated and immobilized in the midst of the program. Initiation of construction would remove the possibility of repeating the flood experience of May 1942. Important rail lines and highways are located along both sides of the river from its mouth to a point near the proposed Bear Creek Dam. This highly industrialized area would be relieved of the threat of a major flood by the construction of this dam.

In the flood of May 1942 the direct and indirect damages attributable to high water in the main river amounted to approximately $10,500,000, of which $7

million could have been prevented had the Bear Creek Dam been in operation. The flood of August 1955 along the Lehigh River was of approximately the same magnitude as that of May 1942. The estimate of damages in the Lehigh River watershed for this recent flood is $29,300,000, of which approximately $5,300,000 occurred in areas of the watershed not affected by the reservoir. It is estimated that $8,700,000 of this damage could have been prevented had the Bear Creek Dam been in operation. Thus, in a period of 14 years the proposed reservoir would have prevented approximately $15,700,000 damage from 2 major floods, in addition to its effect on lesser floods. The damage that would have been prevented in this relatively short period is 86 percent of the estimated cost of the dam and reservoir.

Fiscal year 1958.—The requested amount of $3,700,000 will be applied as follows:

Continue land acquisition	$68,000
Continue construction of the embankment, spillway, intake tower, and appurtenances	3,000,000
Complete outlet tunnel and apron	27,000
Continue construction of access road	300,000
Engineering and design	60,000
Supervision and administration	245,000
Total	3,700,000

The construction schedule for fiscal year 1958 provides for early completion of the tunnel, intake, and outlet structures, to permit stream diversion and preparation of the dam foundation. Excavation and placement of fill will be carried on at a high rate to effect the stream closure scheduled in May 1958 and achieve an appropriate elevation for security against overtopping by the end of the construction season. Access-road construction and acquisition of reservoir lands will be continued. The program provides the minimum for orderly progress on construction.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $18,200,000 is an increase of $300,000 over the latest estimate ($17,900,000) submitted to Congress, due primarily to higher price levels.

Mr. RABAUT. From the statistics in the justification, work must have started on this project rather promptly after the 1957 appropriation. Have you encountered any difficulty that is likely to hold up this project? The reason I ask is that I notice you have reduced the 1958 request from $3,700,000 to $2,200,000.

Colonel RENSHAW. No, sir. We have not. As result of recent bids you will note we carried our previous estimate at $18,200,000. Our project estimate as the result of bids received very recently for the main structure is now down to $11,700,000.

Mr. RABAUT. Instead of $18 million?

Colonel RENSHAW. Yes; a considerable savings.

Mr. RABAUT. Would not a savings of that size reflect some miscalculation in the estimate?

Colonel RENSHAW. It again reflects the fact that this project was originally authorized in 1946 and in the intervening years we have raised the price in accordance with the Engineering News-Record price-index rise.

Mr. RABAUT. What was the price set on it in 1946, the estimated price?

Colonel RENSHAW. $8,896,000.

Mr. RABAUT. And now it is up to $11,700,000.

Colonel RENSHAW. Yes.

Mr. RABAUT. And it was estimated recently at $18,200,000?

Colonel RENSHAW. Yes.

Mr. RABAUT. What about the benefit-cost ratio?

Colonel RENSHAW. That has gone up 1.1, as you see, to 1.3.

Mr. RABAUT. That is for the whole system again?

Colonel RENSHAW. Yes.

Mr. RABAUT. What would the ratio be for Bear Creek calculated as s single unit?

Colonel RENSHAW. I will supply that along with the Allentown and the Bethlehem figures.

(The requested information follows:)

The flood-control projects on the Lehigh River were authorized as a basin system, as these projects are mutually dependent upon each other in providing protection. With the recently reduced project cost estimate for Bear Creek of $11,700,000, this system now has a benefit-cost ratio of over 1.3 to 1. In accordance with request of the committee, the individual project benefit-cost ratios have been computed, considering Allentown and Bethlehem as being constructed after completion of Bear Creek Reservoir, and considering only the incremental benefits that would then accrue from the local protection projects:

Bear Creek Reservoir	2.1
Allentown	.5
Bethlehem	.8

Mr. KIRWAN. There was almost enough damage done in two floods to cover the cost to build this reservoir?

Colonel RENSHAW. Yes.

Mr. KIRWAN. I see that it was authorized in 1946. Why was it not started before?

Colonel RENSHAW. During the war they suspended most of the work on these projects.

Mr. KIRWAN. The big flood happened in 1942?

Colonel RENSHAW. Yes.

Mr. KIRWAN. That is all.

Mr. RABAUT. I think there is not much doubt that Bear Creek is a good project. Are you adding all three of them in to get the benefit-cost ratio?

Colonel RENSHAW. We are adding the three together to get the benefit-cost ratio. I will have to separate them out for you.

Mr. RABAUT. Bear Creek will probably show up as the best of the three.

Mr. MAGNUSON. Is this large reduction in the estimated cost of this project due to any modifications in the project?

Colonel RENSHAW. We do not attribute it to modifications. We just got lower bids than we expected to get on this type of work.

Mr. MAGNUSON. You applied some sort of cost index to the original estimate to arrive at the $18 million plus figure?

Colonel RENSHAW. That is correct.

Mr. MAGNUSON. Do you have this experience often?

Colonel RENSHAW. We have had it in New England in a few cases recently, and in the case of the Dyberry Dam in my division.

Colonel PENNEY. We are getting good bids, Mr. Congressman, on earthwork-type dams in the Northeast. We have not done much of it in the past 2 years, but in these projects that are coming in now, after this flood, the bids have been very satisfactory.

Mr. MAGNUSON. Is there a lack of work up there for contractors?

Colonel PENNEY. We are getting a lot of bids as well as good bids, sir.

Mr. FENTON. How is this project progressing?

Colonel RENSHAW. We awarded the outlet works last April.

Mr. FENTON. And that is practically finished?

Colonel RENSHAW. It is not finished yet, it is about 70 percent complete at this time, sir. And we have awarded the main structure. The tunnel liners and the gates were awarded September 14, 1956. The dam, the spillway, and the intake towers were awarded on the 26th of April of this year. As you will remember, this is one of the projects for which you gave us money to get started early right after the 1955 flood.

Mr. FENTON. You have reduced your 1958 request from $3,700,000 to $2,200,000?

Colonel RENSHAW. Yes.

Mr. FENTON. Why is that?

Colonel RENSHAW. There will be a lower rate of earnings because of the low bids. The contractor will probably do the same units of work but he will earn less money.

Mr. FENTON. It is a better bid, then?

Colonel RENSHAW. Yes.

Mr. FENTON. Did I hear correctly when you said that you reduced the cost of this project from $18 million down to $11 million?

Colonel RENSHAW. $11,700,000.

Mr. FENTON. I will ask the same question as the gentleman from Washington asked—is there any change in the features of the project?

Colonel RENSHAW. No, sir.

Mr. FENTON. The same thing?

Colonel RENSHAW. Approximately the same thing, yes.

RELATIONSHIP OF LEHIGH VALLEY PROJECTS

Mr. FENTON. How much protection would the Bear Creek Dam give to that whole Lehigh Valley area if you were to eliminate Bethlehem and Allentown?

Colonel RENSHAW. At Allentown the local protection work gives us 6 feet of protection. The dam adds 2 feet of protection. Bethlehem is only a few miles south, so I would guess that would be similar.

Mr. FENTON. Allentown is in between Bethlehem and the dam?

Colonel RENSHAW. Yes. Allentown and Bethlehem are nearly contiguous cities.

Mr. FENTON. One of the reasons for the protection at Allentown and Bethlehem is on account of the Bethlehem steel works?

Colonel RENSHAW. That has a large share of the damage.

Mr. FENTON. There are some important railroads in that vicinity and quite a lot of homes.

Are there any tributaries running into the Lehigh around Allentown and Bethlehem that would cause floods?

Colonel RENSHAW. The Monocacy River comes in at Bethlehem and does a little flooding. There are small streams, on none of which we plan local protection at this time. The dam benefits the entire valley.

Mr. FENTON. In other words, with the dam alone you have 2 feet of protection?

Colonel RENSHAW. That is right.

Mr. FENTON. And with the combined projects you will have 6 feet of protection?

Colonel RENSHAW. Eight feet at Allentown.

HIGH COST OF DREDGING

Mr. RABAUT. Getting back to this subject matter we had up a while ago about the considerable increase in the cost of dredging that the committee is faced with in almost every instance, what effect would it have if the Engineers ordered some dredging equipment to do this work themselves?

Colonel RENSHAW. We own dredging equipment now.

Mr. RABAUT. And you give it to others to use?

Colonel RENSHAW. We own hopper dredges largely in the corps now. The contracting industry has not built any hopper dredges of their own, so we do most of that type of work. Of course, when we can bid our hopper dredges against the pipeline work, we do that now. We have had several recent instances of that.

Mr. RABAUT. It appears to me that what these dredgers need is competition. I think that we have appropriated so much for dredging projects that we have absorbed the market. They do not have to give us a reasonable bid. We are waking up to the fact, I think. At least that is my feeling about it. These dredging jobs are really in the high figures. They are not going along with the ordinary escalation of the other construction work that is being done, for instance, on reservoir projects. Dredging seems to be in a class by itself. It becomes our duty here on this side of the table to protect the taxpayers' money. What can the Engineers do to give these dredgers a little more competition?

Colonel RENSHAW. I might add this: at the request of the Chief of Engineers, in my office, and in other division engineer offices, there are currently being made studies to determine whether or not it might be worth while to acquire a dredging plant or two for the purpose of bidding against contractors.

Mr. RABAUT. Off the record.

(Discussion off the record.)

Mr. RABAUT. Now, we have had considerable talk about the cost of this dredging off the record. I am very favorable to the idea, and I know the committee is favorable, that the engineers augment with their own equipment such equipment as they would need to assure a reasonable amount of competition if they feel that the bid figures are out of line. I think that deduction could well be made from the talk that we have had off the record.

DYBERRY RESERVOIR AND PROMPTON RESERVOIR

The next two projects are the Dyberry Reservoir and the Prompton Reservoir. Since these two are so closely related, I think we can discuss them together.

We will insert in the record at this point justification pages 83, 84, and 85; and 89, 90, and 91.

(The pages referred to are as follows:)

DYBERRY RESERVOIR, PA.

(Continuing)

Location.—On Dyberry Creek, 2½ miles above its junction with Lackawaxen River and 3 miles upstream from Honesdale, Pa., and about 27 miles above the junction of the Lackawaxen and Delaware Rivers.

Authorization.—1948 Flood Control Act.

Benefit-cost ratio.—1 to 1 (for combined projects Dyberry and Prompton Reservoirs).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$8,120,000	
Estimated non-Federal cost	[1] 1,500	
Cash contributions	0	
Other costs	[1] 1,500	
Total estimated project cost	8,123,000	
Appropriations to June 30, 1956	253,000	
Appropriation for fiscal year 1957	600,000	
Appropriations to date	853,000	11
Appropriation requested for fiscal year 1958	2,000,000	35
Balance to complete after fiscal year 1958	5,267,000	

[1] Allocation to this project from total non-Federal cost of $3,000 for the combined Dyberry and Prompton Reservoirs.

PHYSICAL DATA

Dam:
Type: Earth fill.
Height: 112 feet.
Length: 1,280 feet.
Reservoir capacity: Flood control: 24,500 acre-feet.
Outlet:
Tunnel in rock, uncontrolled.
Capacity, 2,500 cubic feet per second (pool at spillway crest).
Spillway:
Type: Uncontrolled overflow, left abutment.
Capacity: 69,000 cubic feet per second (maximum pool).
Status (Jan. 1, 1957): Construction not started.
Completion schedule:
Entire project: November 1959.
Land acquisition: December 1958.
Relocations: November 1959.
Outlet works: June 1958.
Dam: November 1959.

JUSTIFICATION

This reservoir will control the runoff from a drainage area of 65 square miles, which is 40 percent of the Lackawaxen River watershed above Honesdale, Pa. The towns of Honesdale, Hawley, White Mills, Prompton, and Seelyville are located along the river below the dam site. In the flood of May 1942, the largest of record up to that time, 24 lives were lost in these towns. The 1942 flood also caused property losses amounting to $6,200,000, more than 60 percent of which was at Honesdale, the largest town. It is estimated that construction of this reservoir, together with that at Prompton, will prevent 96 percent of the tangible preventable damages from floods similar to that of May 1942, and give substantial protection against any greater floods, in addition to the protection against possible future loss of life.

The flood of August 1955 produced damages estimated at $3,297,000 in the Lackawaxen River Basin, exclusive of the Wallenpaupack Creek watershed. A considerable portion of the damage at Hawley resulted from the flow of Middle Creek, a tributary of Lackawaxen River below the proposed dams. It is estimated that the two reservoirs Prompton and Dyberry, would have prevented approximately two-thirds of the damage at Hawley and essentially all of the damage at Honesdale. It is estimated that of the total damage in the Lackawaxen Basin approximately one-half would have been prevented had the two reservoirs been in operation.

Fiscal year 1958.—The requested amount will be applied as follows:

Continue land acquisition	$43,000
Initiate and complete relocation of 2 cemeteries	132,000
Complete construction of outlet works	955,000
Continue construction of embankment and spillway	630,000
Engineering and design	95,000
Supervision and administration	145,000
Total	2,000,000

The requested funds provide the minimum for orderly progress of the work.

Non-Federal costs.—The conditions of local cooperation for the combined Dyberry and Prompton Reservoir projects include the removal of three low dams at Honesdale, Pa. This has been done by local interests at a cost of $3,000 for the combined projects.

Status of local cooperation.—The State of Pennsylvania has furnished assurances of compliance with the requirements of local cooperation. Local interests have removed the three low dams at Honesdale. The requirement for preservation of downstream channel capacity will be fulfilled by the State department of forest and water, which administers State laws on encroachment on rivers and streams.

Comparison of Federal cost estimate.—The current Federal cost estimate of $8,120,000 is an increase of $490,000 over the latest estimate ($7,630,000) submitted to Congress. Of this increase $390,000 is due to higher price levels, and $100,000 is due to reevaluation of requirements for lands and damages, relocations, operating equipment and supervision and administration.

Prompton Reservoir, Pa.

(Continuing)

Location.—At Prompton on Lackawaxen River in Wayne County, Pa., 4 miles upstream from Honesdale, Pa., and 30 miles above the junction of the Lackawaxen and Delaware Rivers.

Authorization.—1948 Flood Control Act.

Benefit-cost ratio.—1.00 to 1 (for combined project Prompton and Dyberry Reservoirs).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$6,200,000	
Estimated non-Federal cost	[1] 1,500	
Cash contributions	0	
Other costs	[1] 1,500	
Total estimated project cost	6,201,500	
Appropriations to June 30, 1956	267,000	
Appropriations for fiscal year 1957	550,000	
Appropriations to date	817,000	13
Appropriation requested for fiscal year 1958	2,000,000	45
Balance to complete after fiscal year 1958	3,383,000	

[1] Allocation to this project from total non-Federal cost of $3,000 for the combined Dyberry and Prompton Reservoirs.

PHYSICAL DATA

Dam:
- Type: Earthfill.
- Height: 140 feet.
- Length: 1,230 feet.

Spillway:
- Type: Uncontrolled overflow, right abutment.
- Capacity: 9,200 cubic feet per second (maximum pool).

Reservoir capacity:	*Acre-feet*
Flood control	[1] 48,300
Conservation pool	3,400
Total	51,700

[1] At spillway crest.

Outlet:
Concrete conduit through dam: Uncontrolled.
Capacity: 3,650 cubic feet per second (pool to spillway crest).
Status (January 1, 1957): Construction not started.
Completion schedule:
Entire project: September 1959.
Land acquisition: December 1957.
Relocations: October 1958.
Outlet works: May 1958.
Dam: September 1959.

JUSTIFICATION

This reservoir will control the runoff from a drainage area of 60 square miles, which is 36 percent of the Lackawaxen River watershed above Honesdale, Pa. The towns of Honesdale, Hawley, White Mills, Prompton, and Seelyville are located along the river below the dam site. In the flood of May 1942, the largest of record up to that time, 24 lives were lost in these towns. The 1942 flood also caused property losses amounting to $6,200,000, more than 60 percent of which was at Honesdale, the largest town. It is estimated that construction of this reservoir, together with that on Dyberry Creek, will prevent 96 percent of the tangible preventable damages from floods similar to that of May 1942, and give substantial protection against any greater floods, in addition to the protection against possible future loss of life.

The flood of August 1955 produced damages in the Lackawaxen River Basin estimated at $3,297,000, exclusive of the Wallenpaupack Creek watershed. A considerable portion of the damage at Hawley resulted from the flow of Middle Creek, a tributary of Lackawaxen River below the proposed dams. It is estimated that the two reservoirs, Prompton and Dyberry, would have prevented approximately two-thirds of the damage at Hawley and essentially all of the damage at Honesdale. It is estimated that of the total damage in the Lackawaxen Basin approximately one-half would have been prevented had the two reservoirs been in operation.

Fiscal year 1958.—The requested amount will be applied as follows:

Complete land acquisition	$348,000
Initiate highway relocation	215,000
Complete outlet works construction	778,000
Initiate construction of embankment and spillway	496,000
Engineering and design	40,000
Supervision and administration	123,000
Total	2,000,000

The schedule for fiscal year 1958 provides for completion of the tunnel, intake and outlet structures to permit stream diversion in April 1958. Spillway excavation and placement of dam embankment will be initiated together with construction of the highway relocation in the spillway cut. Acquisition of reservoir lands will be completed. The program provides the minimum for orderly and economical progress on construction.

Non-Federal costs.—The conditions of local cooperation for the combined Dyberry and Prompton Reservoir projects, include the removal of three low dams at Honesdale. This has been done by local interests at a cost of $3,000 for the combined projects.

Status of local cooperation.—The State of Pennsylvania has furnished assurances of compliance with the requirements of local cooperation. Local interests have removed the three low dams at Honesdale. The requirement for preservation of downstream channel capacity will be fulfilled by the State department of forest and water, which administers State laws on encroachment on rivers and streams.

Comparison of Federal cost estimate.—The current Federal cost estimate of $6,200,000 is an increase of $340,000 over the latest estimate ($5,860,000) submitted to Congress; $300,000 of this increase is due to higher price levels, and $40,000 is due to a reevaluation of requirements for lands and damages, relocations, operating equipment and supervision and administration.

Mr. RABAUT. Indicate on the map where these projects are located and tell us why you think both are needed.

Colonel RENSHAW. They are on the Lackawaxen River up above Honesdale. Dyberry Dam is on Dyberry Creek, a tributary of the Lackawaxen.

Mr. RABAUT. Why are they needed?

Colonel RENSHAW. There is a severe flood situation in the town of Honesdale, sir. We have never forgotten the great flood of record, but if we ever get a combination of snowmelt and flood of record, the town of Honesdale will be in a sorry state. The greatest flood up to date was when we lost 14 lives in that little valley.

Mr. RABAUT. How much was the money damage?

Colonel RENSHAW. In the 1942 flood we had $6,200,000 damages.

Mr. RABAUT. Dyeberry has a total estimated cost of $8,120,000, and Prompton Reservoir is $6,200,000.

Colonel RENSHAW. Yes.

Mr. RABAUT. I notice the appropriations requested will bring the first one up to 35 percent and the second to 45 percent.

CHANGES IN COST ESTIMATES

Colonel RENSHAW. I have a recent change. There again we have recently taken bids with the same favorable results we got at Bear Creek and our current working estimate, instead of $8,120,000 for Dyberry is now $4,500,000.

Mr. RABAUT. Is there any change in the construction or plans?

Colonel RENSHAW. There are some design changes, but here again, sir, it is a question of escalating the original authorization price.

Mr. RABAUT. The original price was less?

Colonel RENSHAW. Yes.

Mr. RABAUT. At what date was the original price estimated?

Colonel RENSHAW. It was authorized in the 1948 Flood Control Act.

Mr. RABAUT. And estimated at what price at that time?

Colonel RENSHAW. $3,359,000.

Mr. RABAUT. So the estimate had gone up, under the current price figures, to $8,120,000 and now your estimate is $4,500,000 on the basis of recent bids?

Colonel RENSHAW. That is our total estimated cost. And our benefit-to-cost ratio has likewise gone up to at least 1.3 to 1, sir.

There is one other thing: we are reducing our request to the committee from $2,000,000 as shown on our sheets to $1,500,000.

Mr. RABAUT. And Prompton is reduced to what?

Colonel RENSHAW. We have a further change in that. It was $1,700,000. We want to reduce that all the way down to $1 million.

Mr. RABAUT. What is the cause of these reductions?

Colonel RENSHAW. In the case of Dyberry it is low bids and again a lower rate of earnings by the contractor because of the low bid. In the case of Prompton we have found that we want to go back to engineering studies to examine again our outlet works. We think that we can make substantial savings by taking a couple or more months to look at the engineering of that feature of the work.

STILLWATER RESERVOIR

Mr. RABAUT. The next item is "Stillwater Reservoir, Pa."

We will insert pages 95, 96, and 97 of the justifications in the record at this point.

(The pages referred to are as follows:)

STILLWATER RESERVOIR, PA.

(Continuing)

Location.—Located on the Lackawanna River, a tributary of the North Branch of the Susquehanna River, approximately 4 miles upstream from Forest City, Susquehanna County, Pa.

Authorization.—1941 Flood Control Act.

Benefit-cost ratio.—1.38 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$10,100,000	
Estimated non-Federal cost	0	
Total estimated cost	10,100,000	
Appropriations to June 30, 1956	200,000	
Appropriations for fiscal year 1957	[1] 679,000	
Appropriations to date	879,000	9
Appropriations requested for fiscal year 1958	2,000,000	29
Balance to complete after fiscal year 1958	7,221,000	

[1] Includes permanent transfer to project of $79,000.

PHYSICAL DATA

Dam:
- Type: Earth fill.
- Height: 77 feet.
- Length, including dikes: 2,200 feet.

Spillway:
- Type, uncontrolled: Side-channel ogee.
- Capacity (maximum pool): 37,600 cubic feet per second.

Reservoir capacity:	*Acre-feet*
Flood control	11,600
Water supply	200
Dead storage	200
Total	12,000

Status (Jan. 1, 1957): Not started.

Completion schedule:
- Land acquisition: December 1958.
- Relocations: November 1958.
- Dam and appurtenances: December 1959.
- Entire project: December 1959.

JUSTIFICATION

The project will afford substantial protection to towns in the upper Lackawanna River Valley, particularly Olyphant and Carbondale. The Lackawanna River flows through the heart of the anthracite coal mining region of Pennsylvania. Concentrated mining, residential, commercial, industrial and transportation developments line its banks and valley slopes almost continuously from Forest City to its mouth, a distance of over 30 miles. The valley has been subjected to many large general floods and two severe flash floods, all of which have caused widespread damages, dislocation of people and industry, and attendant suffering. The Stillwater Reservoir would have an effect on all floods of record and would be most effective during floods of long duration in that it would reduce peak discharges of such floods by more than 30 percent at Carbondale and more than 20 percent at Scranton.

Fiscal year 1958.—The requested amount of $2 million will be applied to:

Continue land acquisition	$200,000
Complete railroad and highway relocations	465,000
Initiate utility relocations	170,000
Initiate construction of dam and appurtenances	965,000
Engineering and design	61,600
Supervision and administration	138,400
Total	2,000,000

Funds requested for fiscal year 1958 will provide for completion of the relocarion of the railroad and highway from the damsite and permit the initiation of the main contract for the dam, spillway and outlet works in the fall of 1957. Land acquisition will be continued and construction of utility relocations within the reservoir area will be initiated to assure completion of this work by the time reservoir storage becomes possible.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimate.—The current Federal cost estimate of $10,100,000 is an increase of $900,000 over the latest estimate ($9,200,000) submitted to Congress. There was a $140,000 increase due to reevaluation of requirements for lands and damages; a $1,300,000 increase in the estimate for the dam based on changes in design ($940,000) and increasing price levels; ($360,000) and a $240,000 increase due to reevaluation of engineering and design requirements. These increases were partially offset by a $780,000 decrease in the estimate for relocations, based on design changes and receipt of favorable bids.

Mr. RABAUT. What was the reason for making a $79,000 permanent transfer to this project?

Colonel MCCARTY. The permanent transfer was made because of our contract on the highway and railroad relocation. We can use the additional funds this year.

Mr. RABAUT. The estimated cost of the project has gone up $900,000 since last year, but the benefit-cost ratio is still exactly the same, 1.38 to 1. What is the explanation of that? Is that caused by the benefits going up and the costs going up and keeping the ratio the same?

Colonel RENSHAW. Yes.

Mr. RABAUT. Why did you get this $900,000 increase?

Colonel RENSHAW. We hope, if the favorable bidding trend continues, that the next year we will be able to bring it down.

Mr. RABAUT. Do you in some of these instances help finance the contractors?

Colonel RENSHAW. No, sir. We pay them only as they earn money.

Mr. RABAUT. Last year you told us that the dam would be 79 feet high and 2,330 long and this year it has been reduced to 77 feet high and 2,200 feet long, yet page 97 shows a $940,000 increase in the cost of the dam because of changes in design. Why should a change to a smaller dam increase the cost?

Colonel RENSHAW. There were minor refinements in the design of the dam. We have increased the spillway capacity now. That has caused the change that you speak of.

Mr. RABAUT. Cutting 130 feet off of the length of the dam and cutting it down 2 feet in height?

Colonel RENSHAW. Cutting it down 2 feet decreased the length by 130 feet.

Mr. RABAUT. And it is still costing us $940,000 more.

Colonel RENSHAW. Yes.

Mr. RABAUT. We have $1,300,000 increase in the estimate for the dam based on changes in the design; correct?

Colonel MCCARTY. Design changes and price level rise.

Mr. RABAUT. $940,000 is just for changes in design, and increasing price levels, $360,000?

Colonel RENSHAW. That is right.

Mr. RABAUT. And $240,000 is an increase due to revaluation of engineering and design requirements?

Colonel RENSHAW. That is right.

Mr. RABAUT. These increases were partially offset by $780,000 decrease in the estimate for relocations based on the design changes and receipt of favorable bids. With all the favorable bids, redesigns and everything else, it is costing us more money now.

Colonel RENSHAW. Yes. We still anticipate when we bid the main structure there may be a reduction as we got in the Dyberry case.

Mr. TABER. Have you taken into account the bids the contractors will likely make on the basis of other recent projects like Dyberry?

Colonel PENNY. That is why we expect it to cost less, possibly, and when we take the bids on the main structure, if that is borne out, we will reduce the cost accordingly when we come in next year. We revise the cost each July.

Mr. TABER. How much could we revise it right now having that in mind?

Colonel PENNEY. Tentatively, if we get the same trend on bids perhaps $1 million.

Mr. FENTON. Do you look for a decrease in the cost at Prompton?

Colonel RENSHAW. We might get a decrease at Prompton.

Mr. FENTON. You are sure of the decrease in Dyberry?

Colonel RENSHAW. That is the result of actual bids.

Mr. FENTON. And it may come down $1 million at Stillwater?

Colonel RENSHAW. We may come down $1 million at Stillwater.

Mr. FENTON. What accounts for these low bids?

Colonel RENSHAW. We have had about 7 to 11 bidders on these jobs.

Mr. FENTON. You have quite a lot of competition up there?

Colonel RENSHAW. Yes.

Mr. FENTON. That is due, I take it, to a lot of unemployment in those areas, generally speaking?

DYBERRY RESERVOIR

Colonel RENSHAW. That is a depressed area, sir.

Mr. FENTON. I know that to be a fact. You have cut that estimated cost almost in half due to the bidding. You are just starting this Dyberry Reservoir; are you not?

Colonel RENSHAW. Yes.

Mr. FENTON. You are going to break ground, when?

Colonel RENSHAW. A week from today.

Mr. FENTON. Did I understand you correctly in your opening statement, on these reservoirs, to say that the loss of life was 14 people in the 1942 flood; is that right?

Colonel RENSHAW. Yes.

Mr. FENTON. Is it not true that there were 24 lives lost?

Colonel RENSHAW. Yes; that is right. I will have to correct the record.

Mr. FENTON. There is quite a problem in the Honesdale area?

Colonel PENNEY. Yes.

Mr. FENTON. Those two projects I understand will completely eliminate that trouble.

Colonel RENSHAW. Yes.

OPERATION AND MAINTENANCE

Mr. RABAUT. We will now take up operation and maintenance and we will insert pages 99 through page 105 of the justifications in the record at this point.

(The pages referred to are as follows:)

1. Navigation

(*a*) Channels and harbors.—The budget estimate of $10,828,000 provides for essential maintenance work on 31 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of maintaining the navigation channels and harbors and anchorages of coastal harbors and waterways by means of dredging, snagging, operation of navigation structures, and repairing harbor jetties; periodic inspections and surveys to determine conditions of the projects for programing purposes and providing navigation interests with adequate information on existing channel conditions; all as authorized in the laws adopting river and harbor projects. This budget estimate includes $200,000 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
DELAWARE							
Delaware River-Philadelphia to sea, Delaware, New Jersey, Pennsylvania.	4,448.2	3,769.0	3,817.0			3,817.0	Dredging.
Indian River Inlet and Bay		280.0		152.0		152.0	Repairing jetties.
Intracoastal Waterway from Delaware River to Chesapeake Bay, Delaware and Maryland.	595.1	835.6	687.0			687.0	Dredging; maintenance of project facilities.
Wilmington Harbor	236.2	320.0	560.0			560.0	Dredging.
DISTRICT OF COLUMBIA							
Washington Harbor	235.9	14.0	10.0			10.0	Maintenance of tidal gates.
Potomac River—elimination of waterchestnuts.	8.9	8.0	6.0			6.0	Patrol operations.
MARYLAND							
Baltimore Harbor and channels	33.2	240.0	244.0			244.0	Dredging.
Baltimore Harbor, drift removal	40.3	40.0	40.0			40.0	Removal of drift and obstructions.
Potomac River, below Washington.	.5			153.0		153.0	Dredging.
NEW JERSEY							
Absecon Inlet	129.1	160.0	204.0			20.40	Do.
Delaware River at Camden				50.0		50.0	Do.
Delaware River from Philadelphia to Trenton.	734.9	186.1	102.0			120.0	Do.
New York and New Jersey Channels.		255.0	204.0			204.0	Do.
Raritan River	188.5	320.0	127.0			127.0	Do.
Shark River	56.3	52.1	50.0			50.0	Do.
NEW YORK							
Bay Ridge and Red Hook Channels.	5.9			20.40		204.0	Do.
Buttermilk Channel				102.0		102.0	Do.
East Rockaway Inlet	70.2	50.0	92.0			92.0	Do.
Fire Island Inlet	47.2	80.9	51.0			51.0	Do.
Great South Bay				30.0		30.0	Do.
Hudson River Channel	784.9	370.0	409.0	300.0		709.0	Do.
Hudson River	224.3	212.6	381.0			381.0	Dredging, operation of locks and maintenance of structures.
Newtown Creek	87.5	5.0		152.0		152.0	Dredging.
New York Harbor	126.1	228.1	204.0			204.0	Do.
New York Harbor, collection of drift.	307.5	380.0	408.0			408.0	Removal of drift and obstructions.
PENNSYLVANIA							
Schuylkill River	712.3	550.0	305.0			305.0	Dredging.
VIRGINIA							
Atlantic Intracoastal Waterway (Norfolk).	423.0	491.1	429.0	64.0		493.0	Dredging; operation and maintenance of project facilities.
Hampton Roads, Norfolk and Newport News Harbors, drift removal.	19.0	20.8	24.0			24.0	Removal of drift and obstructions
James River	399.4	370.5	397.0			397.0	Dredging.
Norfolk Harbor	440.8	91.1	77.0	650.0		727.0	Do.
Rappahannock River		90.0		35.0		35.0	Do.
Project condition surveys	83.1	82.0	106.0	2.0		108.0	
Other projects, maintenance, periodically.	897.7	2,093.2					
Total channels and harbors	11,336.0	11,595.2				10,828.0	

(*b*) *Locks, dams, reservoirs, and canals.*—None.

2. Flood control

(*a*) *Reservoirs.*—The budget estimate of $138,000 for the operation and maintenance of 5 flood-control reservoirs and scheduling of flood-control reservoir operations in the basin, provides the minimum amount necessary for operational requirements, including $15,000 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work. This estimate is approximately $39,000 more than the amount available in fiscal year 1957 and is essential for adequate operation and maintenance of the project facilities. The amount requested for maintenance recurring annually is the necessary operation and ordinary maintenance of the project facilities; labor, supplies, materials and parts required for the day-by-day functioning of the projects. Periodic or onetime requirement is indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
NEW YORK							
Southern New York project reservoirs:							
Almond Dam	13.5	14.0	16.0	0	2	18.0	Install safety-guard rails.
Arkport Dam	8.1	8.0	8.5	0	0	8.5	
East Sidney Dam	24.0	23.0	25.0	0	0	25.0	
Whitney Point Dam	23.6	23.0	25.0	10	0	35.0	Mechanize trash rocks; debris removal.
PENNSYLVANIA							
York Reservoir	27.4	28.0	30.0	19	0	49.0	Road and bridge repairs; channel clearing; levee maintenance.
Scheduling of flood-control reservoir operations.	.8	3.2	2.5	0	0	2.5	
Total reservoirs	97.4	99.2				138.0	

(*b*) *Other (including channel improvement projects, miscellaneous items and inspections).*—The budget estimate of $233,500 provides for the essential annual and periodic maintenance requirement of the 11 separate units of the local flood-protection project, necessary repair work and inspection of 38 completed works during the budget year. The estimate includes $140,800 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
New York:							
Southern New York project	56.3	120.0	52.8	135.8	40.0	228.6	Annual channel maintenance and periodic dredging, removal of deposits, repair of structures.
Inspection of completed works.	3.4	6.6	4.9			4.9	
Total flood control, other	59.7	126.6				233.5	
Total flood control	157.1	225.8				371.5	

3. Multiple-purpose projects including power

The budget estimate of $654,000 for the operation and maintenance of 2 multiple-purpose projects provides the minimum amount necessary for annual operational requirements and including $48,000 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work. The amount requested recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials and parts required for the day-by-day functioning of the projects. Periodic is indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
North Carolina: John H. Kerr Reservoir.	418.5	436.9	453.0	48.0	0	501.0	Repair wing and saddle dikes, weld turbine units 1-4.
Virginia: Philpott Reservoir	162.7	151.7	153.0	0	0	153.0	
Total multiple-purpose projects.	581.2	588.6				654.0	
Total Middle Atlantic Basin.	12,074.3	12,409.6				11,853.5	

DELAWARE RIVER

Mr. RABAUT. The project "Delaware River, Philadelphia to the sea," is by far the most expensive maintenance project in this area. You are requesting $3,817,000 just for recurring annual maintenance of this one project. Why should it cost so much?

Colonel RENSHAW. This is a long stretch of river, sir, from Philadelphia down to the natural deep water.

Mr. RABAUT. How long is it?

Colonel RENSHAW. It is about 96 miles.

Mr. RABAUT. Who does this work?

Colonel RENSHAW. It is done largely by the United States Government, although there is some contract work.

Mr. RABAUT. The contract work is in the minority?

Colonel RENSHAW. Yes, sir.

Mr. RABAUT. Will the maintenance cost of this project be affected by the deepening of the Delaware River above Philadelphia?

Colonel RENSHAW. Yes.

Mr. RABAUT. It will have a reflection in the cost?

Colonel RENSHAW. Yes.

Mr. RABAUT. Would you want to estimate what you think the reflection might be?

Colonel RENSHAW. The silt that comes this far—and it originates above the tidal water—will be taken out before it reaches the lower part of the river.

Mr. RABAUT. The project "Philadelphia to Trenton" is estimated to cost $102,000 for maintenance in 1958. About how much will the annual maintenance costs be after the 35-foot channel is completed?

Colonel RENSHAW. $680,000 on the 35-foot depth basis.

Mr. RABAUT. Annual?

Colonel RENSHAW. Yes.

Mr. RABAUT. How much does it average per year now? You have $102,000 in here for 1958.

Colonel RENSHAW. It is periodic.

Mr. RABAUT. Supply the answer for the record.

(The requested information follows:)

This maintenance cost averaged $185,000 per year from 1947 to 1956.

Mr. RABAUT. What is the Southern New York project for which $228,600 is requested for 1958?

Colonel RENSHAW. That is the 11 local protection projects in southern New York State which the Federal Government has the maintenance on. $87,800 of that is for recurring annual maintenance.

Mr. FENTON. Going back to the West Branch of the Susquehanna. At the present time we have a State dam, the George B. Stevenson Dam, and we contemplate advance engineering on Curwensville. Then there is a fourth reservoir, Blanchard. Nothing has been done on that.

Colonel RENSHAW. It is not in our program this year, sir. We have not had any advance engineering planning.

Mr. FENTON. Nothing has been done at all?

Colonel RENSHAW. That is right.

Mr. RABAUT. Before conclusion of this session this morning I want to pay tribute to Colonel Renshaw for his knowledge of his area and also to Colonel McCarty.

I was glad of the suggestions made here when we had our talk off the record and for the cooperative attitude you folks have shown. We want to thank you and Colonel Pickett for joining in with us in our discussion of matters affecting the costs of your program.

This afternoon we will resume our hearings at 2 o'clock.

(AFTERNOON SESSION)

GULF AND SOUTH ATLANTIC AREA

GENERAL INVESTIGATIONS

Mr. RABAUT. Next is the gulf and South Atlantic area. For general investigations there is requested a total of $133,900 for 19 projects.

We will insert pages 3, 4, and 5 in the record.

(The information referred to is as follows:)

1. Examinations and surveys

(*a*) *Navigation studies.*—The amount of $84,400 is requested for prosecution of 8 studies during fiscal year 1958. This amount will permit completion of 7 reports and progress on 1 other. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Alabama: Heron Bay	$7,500	$2,500	$5,000	0
Florida:				
Bakers haulover inlet	25,100	21,100	4,000	0
Gulf shrimp-boat harbors	57,800	38,100	19,700	0
Palm Beach Harbor	59,000	31,400	27,600	0
Mississippi: Pascagoula Harbor	5,000	2,400	2,600	0
North Carolina:				
Bogue Inlet and Swansboro Harbor	3,000	0	3,000	0
Drum Inlet	2,500	0	2,500	0
South Carolina: Charleston Harbor	50,000	10,000	20,000	20,000
Total	209,900	105,500	84,400	20,000

(*b*) *Flood-control studies.*—The amount of $25,800 is requested for prosecution of 8 studies during fiscal year 1958. This amount will permit completion of 7 reports and progress on 1 other. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation, fiscal year 1958	Additional to complete after fiscal year 1958
Florida:				
Dade County Arch Creek area	$5,000	0	$5,000	0
South Dade County	10,000	0	10,000	0
St. Johns River	45,000	0	5,000	$40,000
South Carolina:				
Black River	200	0	200	0
Buck Creek	7,000	$2,000	5,000	0
Combahee and Broad Rivers	200	0	200	0
Reedy River	200	0	200	0
Simpson Creek	2,600	2,400	200	0
Total	70,200	4,400	25,800	40,000

(c) *Beach erosion cooperative studies.*—The amount of $23,700 is requested for prosecution of 3 studies during fiscal year 1958. This amount will permit completion of 2 reports and progress on 1 other. Tentative allocations by studies follow:

Study	Total estimated Federal cost	Allocation prior to fiscal year 1958	Tentative allocation fiscal year 1958	Additional to complete after fiscal year 1958
Florida:				
Fernandina	$15,000	0	$15,000	0
Fort Myers	10,000	0	5,000	$5,000
Palm Beach County, phase 2	26,200	$22,500	3,700	0
Total	51,200	22,500	23,700	5,000
Grand total	331,300	132,400	133,900	65,000

Advance Engineering and Design

Mr. Rabaut. Under "Advance engineering and design" there is $312,000 requested for four projects. Insert pages 6 through 11 in the record.

(The information referred to is as follows:)

Columbia Lock and Dam, Alabama and Georgia

(Continuation of planning)

Location and description.—The project is located on the Chattahoochee River about 49.5 miles above its mouth and about 2 miles south of Columbia, Ala. The plan of improvement provides for a lock and dam to extend 9-foot depth for navigation from the head of Jim Woodruff Reservoir to Fort Gaines Dam.

Authorization.—1946 River and Harbor Act.

Benefit-cost ratio.—1.03 to 1 for the authorized project for the Apalachicola, Chattahoochee and Flint Rivers, of which Columbia is an integral unit.

Summarized financial data

Estimated Federal cost	$13,200,000
Estimated non-Federal cost	50,000
Cash contributions	0
Other costs	50,000
Total estimated project cost	13,250,000
Preconstruction planning estimate	342,000
Appropriations to June 30, 1957	117,000
Planning allocation for fiscal year 1958	150,000
Balance to complete preconstruction planning after fiscal year 1958	75,000

JUSTIFICATION

The authorized project for the Apalachicola, Chattahoochee, and Flint Rivers will provide 9-foot depth for navigation to Columbus, Ga., on the Chattahoochee River and to Bainbridge, Ga., on the Flint River. Prospective commerce for the new waterway, consisting principally of petroleum products, sugar, lumber, stone, coal, industrial chemicals and fertilizer materials, is estimated to be 1,227,000 tons annually. Columbia lock and dam, an integral part of the above plan, is the only unit of the plan which is not under construction and must be constructed before the 9-foot depth for navigation to Columbus can be provided.

Non-Federal costs.—The investment required of local interests is estimated at $50,000 and is for provision of terminal facilities at Columbia.

Status of local cooperation.—The town of Columbia, Ala., has agreed by resolution to construct adequate terminal facilities at Columbia.

Comparison of Federal cost estimates.—The current Federal estimate of $13,200,000 reflects an increase of $2,400,000 over the latest estimate submitted to Congress of $10,800,000. The increase resulted from a change in the elevation of the spillway crest and the introduction of crest gates which further detailed design analyses proved to be necessary.

WILKESBORO RESERVOIR, N. C. (YADKIN RIVER)

(Continuation of planning)

Summarized financial data

Estimated Federal cost	$8,050,000
Estimated non-Federal cost	0
Cash contributions	0
Other costs	0
Total estimated project cost	8,050,000
Preconstruction planning estimate	365,000
Appropriations to June 30, 1957	79,000
Planning allocation for fiscal year 1958	160,000
Balance to complete preconstruction planning after fiscal year 1958	126,000

JUSTIFICATION

The project contemplated under the authorization in the 1946 Flood Control Act would provide for construction of a dam at the Wilkesboro site on the Yadkin River in Wilkes County, N. C. This project is presently in a "deferred" category pending completion of an economic restudy. In view of the considerable interest in a system of smaller dams as an alternative to the single high dam, this restudy is also evaluating this possibility, so as to determine conclusively the best plan for control and use of the Yadkin Valley water resources. Preliminary analysis indicates that a project with a favorable benefit-to-cost ratio can be developed. Studies now underway are expected to be completed this spring and, contingent upon a finding that the authorized project is the best plan, a request is being made for detailed planning on the project. Flood protection is urgently needed to protect rapidly expanding industrial and commercial establishments which presently constitute the principal economic base of the area. Recurrence of the 1940 flood under present conditions would cause total losses exceeding $6 million to urban property in Wilkesboro, North Wilkesboro, and Elkin, and to agricultural property along the upper Yadkin River.

Comparison of Federal cost estimate.—The current Federal cost estimate of $8,050,000 (May 1956 prices) is a decrease of $1,080,000 from the latest cost estimate of $9,130,000 (July 1955 prices) submitted to Congress. A review of prior engineering studies showed that the character and elevation of rock underlying the site of the dam and spillway would be a significant factor in the estimate of project cost. A more detailed examination of foundation conditions was therefore made a part of the restudy on project economics. The reduction in the previous estimate results from this further study of foundation conditions and from a reexamination of all other aspects of design.

Advance engineering and design.—Reexamination of projects in the "deferred for restudy" category.

Project	Total estimated cost of restudy	Tentative allocation, fiscal year 1958	Additional to complete restudy after fiscal year 1958
Beaufort Harbor, N. C.	$800	$800	0

This modification, authorized in the 1945 River and Harbor Act, provides for extending the existing basin in front of the town of Beaufort, N. C., eastward to the easterly side of Marsh Street (about 515 feet), and for increasing the width of the entire basin to 600 feet, all to a depth of 12 feet. Increasing the size of the basin was justified in the project document, in 1939, on the basis of increased safety and convenience of established navigation. A firm economic justification for the proposed widening could not be developed in recent years on the basis of available data. However, local interests anticipate a large expansion in commercial fishing and other commerce from the improvement of the adjacent Taylors Creek, completed in January 1956, which will increase the requirement for enlargement of the Beaufort Harbor Basin. Funds to accomplish a restudy of the project economics are requested for fiscal year 1958 to make an up-to-date analysis of benefits and costs as a basis for reclassification of the project.

Project	Total estimated cost of restudy	Tentative allocation, fiscal year 1958	Additional to complete restudy after fiscal year 1958
Channel connecting Thoroughfare Bay with Cedar Bay, N. C.	$1,200	$1,200	0

The modification, authorized by the 1945 River and Harbor Act, provides for a channel 7 feet deep and 50 feet wide, with increased width at bends, and about 4 miles long, to connect Thoroughfare Bay and Cedar Bay, N. C. The modification was justified in the project document, in 1939, on the basis of increased safety and convenience for the commercial fishing industry, elimination of delays and losses of fish by spoiling, and reduction of fuel cost, but no firm monetary evaluation of these benefits has ever been made. Fishermen have expressed a desire for the deepening of this channel. Funds are requested for fiscal year 1958 to accomplish a restudy of the project economics and to establish whether the requirements of local cooperation would be fulfilled in order that the project may be reclassified.

COLUMBIA LOCK AND DAM, GEORGIA

Mr. RABAUT. The first project in this group is Columbia lock and dam, Alabama and Georgia, for which $150,000 is requested. This is part of the comprehensive project for the Apalachicola, Chattahoochee, and Flint Rivers. The benefit-cost ratio for the whole system has gone down from 1.05 to 1 last year to 1.03 to 1 this year. Will you explain that for us, General?

General HOEFFER. Yes, sir. There has been an increase in the overall cost in the program based on increased cost of Columbia lock and dam in part and some increases at the Fort Gaines site.

Mr. RABAUT. That is a low benefit-cost ratio.

General HOEFFER. It is a low benefit-cost ratio. However, we feel now that the planning has progressed far enough so we do not anticipate any further reductions in this.

Mr. RABAUT. What was the benefit-cost ratio calculated to be when this comprehensive project was first presented for appropriation?

General HOEFFER. I will have to furnish that for the record, sir.

(The information requested is as follows:)

The benefit-cost ratio in the project document is 1.08 to 1.

DESCRIPTION OF APALACHICOLA-CHATTAHOOCHE-FLINT COMPREHENSIVE PROJECT

Mr. RABAUT. Point out the projects in this system and tell us the status of each.

General HOEFFER. The projects in the system, starting from the upstream end and going down to the gulf, would be, first, the Buford project on the Chattahoochee River, which is essentially complete and will be completed during this calendar year.

Next is the Fort Gaines lock and dam under construction, construction having been initiated in the fall of 1955.

Then the Columbia lock and dam, which is in the planning stage at the present time, and then, farther south, is the Jim Woodruff lock and dam, which is essentially completed and will be completed this calendar year.

The last is the Apalachicola River dredging, which goes from the Jim Woodruff Dam to the gulf and which is completed now.

Mr. RABAUT. What is the depth of that?

General HOEFFER. Nine feet.

Mr. RABAUT. How much already has been appropriated for the comprehensive project?

General HOEFFER. I don't have it added up for the five projects at this time, Mr. Chairman. I can furnish it for the record.

(The information requested is as follows:)

The appropriations through fiscal year 1957 were $92,128,000.

Mr. RABAUT. How much remains to be appropriated before this is completed? Do you have that information?

Suppose you supply both of those figures?

General HOEFFER. Very well, sir.

(The information referred to is as follows:)

Based on the present approved estimates, $96,177,000 remains to be appropriated.

Mr. RABAUT. Would the other individual units lose much of their economic benefits if the Columbia lock and dam is not completed?

General HOEFFER. Yes, sir. The Columbia lock and dam is an integral part of the system. The Fort Gaines lock and dam would be useless for navigation without completion of the Columbia lock and dam.

Mr. RABAUT. You might furnish for the record, also, what percentage of these projects are finished.

General HOEFFER. Very well, sir.

Mr. RABAUT. Take them as a total and give the percentages.

(The information requested is as follows:)

Based upon the present approved estimate of $188,305,000, the overall project is approximately 47 percent complete.

Approximate percentages of completion of individual units are Buford, 95 percent; Fort Gaines, 6 percent; Columbia, 0 percent; Jim Woodruff, 99 percent; and Apalachicola River, 98 percent (dredging is 100 percent complete).

COST INCREASE FOR COLUMBIA LOCK AND DAM

Mr. RABAUT. Last year Columbia lock and dam was estimated to cost $10,800,000. This estimate now is $13,200,000, an increase of almost 25 percent. What is the explanation for this increase?

General HOEFFER. The increase in the Columbia lock and dam cost this year over last year amounts to $2,400,000. This increase resulted largely from the increase of 4 feet in the height of the dam, that is the Columbia lock and dam, and the addition of crest gates for controlling the discharge from that pool.

Mr. RABAUT. How is it that that decision is made now at this stage?

General HOEFFER. It was made as a result of determinations made during the preparation of the definite design memorandum.

Mr. RABAUT. Last year you told us you might have to make some changes as I recall it.

General HOEFFER. Yes, sir.

IMPORTANCE OF COLUMBIA LOCK AND DAM TO SYSTEM

Mr. RABAUT. Will you enlarge on the answer to the question I gave you a moment ago, namely, would the other individual units lose much of their economic benefit if the Columbia lock and dam is not completed?

General HOEFFER. Yes, sir. Without telling you what the effect percentagewise on any one would be, without the Columbia lock and dam there would be no navigation above the Jim Woodruff pool, so the ability to carry commerce up to Columbus, Ga., for example, would not exist.

Mr. RABAUT. Indicate on the map what commerce you have there now and how far.

General HOEFFER. The commerce is available now from the gulf to about where it states Columbia lock and dam. In other words, the pool of the Jim Woodruff lock and dam is the limit.

Mr. RABAUT. How far do you intend to go?

General HOEFFER. Up as far as Colonel Penney is now pointing.

Mr. RABAUT. A distance of how many miles?

Supply the correct number of miles for the record.

General HOEFFER. Yes, sir.

(The information requested is as follows:)

About 113 additional miles of river will become navigable.

General HOEFFER. In addition we have navigation up the Flint River as far as Bainbridge.

WILKESBORO RESERVOIR

Mr. RABAUT. The next project is the Wilkesboro Reservoir, N. C. This project is in a deferred category pending completion of an economic study. Why should we not defer appropriations of planning funds until we see the results of the study being made this year?

We would be almost appropriating in the dark on the basis of the information in these justifications.

General HOEFFER. The economic justification and study of the project has been completed, Mr. Chairman. It does show that the project could go ahead and be constructed and the planning could be carried out.

Mr. RABAUT. Evidently that has happened between the time the justifications were made up and now. You have language in here which says, "This project is presently in a deferred category, pending completion of an economic restudy."

General HOEFFER. Yes, sir. The study has just been completed.

Mr. RABAUT. What is the benefit-cost ratio?

General HOEFFER. In the restudy it is 1.15 to 1.

Mr. RABAUT. Another low one.

General HOEFFER. I would like to explain one thing about that. This 1.15 to 1 is based on the inclusion of the expected water supply and fish and wildlife benefits in this project. The exclusion of those features would reduce the benefit-cost ratio on a pure flood-control basis to 0.91 to 1, but these water supply features——

Mr. RABAUT. Less than unity?

General HOEFFER. Yes, sir, on strictly flood control.

Mr. RABAUT. Is there still local opposition to this project?

Colonel PENNEY. The local opposition in the past has stemmed largely from Caldwell County, which is the upstream county, and which, as a matter of fact, led to a determination that the dam should not be any higher than would back up water just to that county line, and it has been changed to accomplish that.

There is very strong support for this project in the valley there, in the Yadkin Valley, and there is some scattered opposition which was based largely on a question of whether or not the dam should be built or whether alternative means should be looked into.

In the course of this economic restudy, in view of this interest in alternatives, we have just completed in this last year a study of these alternatives, and it shows conclusively that the project as proposed is the superior project by about a 3 to 1 margin, sir.

Mr. RABAUT. Now you reduce the height of it to please this complaining group.

Colonel PENNEY. That is correct.

Mr. RABAUT. What has that done to the benefit-cost ratio?

Colonel PENNEY. 1.15 is the benefit-cost ratio on the project as just explained.

CONSTRUCTION

Mr. RABAUT. For construction the total request is $21,133,000 for 9 projects.

JACKSON LOCK AND DAM

The first construction project is Jackson lock and dam in Alabama. We will place pages 13, 14, and 15 in the record.

(The information referred to is as follows:)

JACKSON LOCK AND DAM, ALABAMA

(Continuing)

Location.—On the Tombigbee River, about 74.7 miles above its mouth, 23 miles northwest of Jackson and 3 miles west of Coffeeville, Ala., in Choctaw and Clarke Counties.

Authorization.—1909 River and Harbor Act (section 6).

Benefit-cost ratio.—1.51 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$23, 600, 000	
Estimated non-Federal cost	0	
Cash contribution	0	
Other costs	0	
Total estimated project cost	23, 600, 000	
Appropriations to June 30, 1956	159, 000	
Appropriations for fiscal year 1957	750, 000	
Appropriations to date	909, 000	4
Appropriations requested for fiscal year 1958	1, 700, 000	11
Balance to complete after fiscal year 1958	20, 991, 000	

PHYSICAL DATA

Dam:

Type: Concrete gravity.

Height: 53 feet.

Length: 1,192 feet (exclusive of lock).

Spillway:

Type: Concrete fixed-crest, 640 feet long and gate controlled weir, 552 feet long with stilling basin.

Capacity: The combined spillways have a capacity of 152,000 cubic feet per second.

Lock:
Size: 110 by 600 feet.
Maximum lift: 34 feet.
Status (January 1, 1957): Construction initiated in October 1956.
Completion schedule:
Entire project: March 1961.
Land acquisition: April 1959.
Relocations: January 1959.
Clearing: December 1959.
Dam construction: March 1961.
Lock construction: April 1960.
River closure: June 1960.
Lock in operation: June 1960.

JUSTIFICATION

The Jackson lock and dam is a modernization unit of the Tombigbee-Warrior Waterway. It will replace 3 obsolete locks and dams (lock No. 1, 52 by 282 feet, and locks Nos. 2 and 3, each 52 by 286 feet), which have been in service 42 to 48 years, with a modern 110- by 600-foot lock with a maximum lift of 34 feet. The modern Demopolis lock is in operation and the modern Warrior lock is scheduled to be in operation by October 1957. The modern Jackson lock will eliminate the multiple lockages now required and considerably reduce the time of travel in the pool above, making it possible to handle more traffic in less time and consequently reduce the cost of navigating this reach of the river. Reduction of travel time on this waterway is considered to be of great importance, since it will permit the more rapid movement of critical materials along the Tombigbee-Warrior Waterway to and from the highly industrialized steel-producing center of Birmingham, Ala. This waterway is vital to the needs of both the producers and the consumers of steel in the South, with iron ore from the port of Mobile moving to the steel mills of Birmingham, and steel products from Birmingham moving to the shipyards and other industries at Mobile and along the gulf coast.

A total of 4,221,000 tons of commerce moved over the Black Warrior, Warrior, and Tombigbee Rivers in 1955, as compared with 3,019,000 tons in 1954. Some of the principal commodities were: pulpwood (147,000 tons), limestone (758,000 tons), sand and gravel (441,000 tons), rolled and finished steel products (479,000 tons), iron ore (681,000 tons), bituminous coal and lignite (423,000 tons), crude petroleum (324,000 tons), clays and earths (159,000 tons), motor fuel and gasoline (415,000 tons), and industrial chemicals (92,000 tons).

Fiscal year 1958.—The requested amount of $1,700,000 will be applied to:

Continue acquisition of the reservoir area	$407,000
Complete lock and dam excavation	316,400
Initiate construction of lock and dam	574,600
Initiate and complete buildings, grounds, and utilities	32,000
Engineering and design	200,000
Supervision and administration	170,000
Total	1,700,000

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—No change from the latest estimate submitted to Congress ($23,600,000).

Mr. RABAUT. I notice that even though this was not budgeted last year, construction was started less than 4 months after the appropriation was passed. Have any difficulties been encountered since construction started?

General HOEFFER. No, sir. The construction has gone along on schedule. The first contract for excavation of the lock and preparation of the working area has gone along in good shape.

Mr. RABAUT. Are you standing by these figures you have here?

General HOEFFER. Yes, sir.

Mr. RABAUT. There is no change, then?

General HOEFFER. That is right.

Mr. RABAUT. The total estimated cost is $23,600,000 for this project. The money appropriated to date will bring it up to 4 percent of completion. The appropriation requested for 1956 is $1,700,000, and that brings it up to 11 percent. Is that correct?

General HOEFFER. Yes, sir.

Mr. RABAUT. The benefit-cost ratio is 1.51 to 1. Is there any particular reason why this project was not included in the budget last year?

General HOEFFER. It was not within the fiscal limitations available for last year's appropriation.

Mr. RABAUT. In other words, you hit your ceiling before you got to it?

General HOEFFER. Yes, sir.

WARRIOR LOCK AND DAM

Mr. RABAUT. If there are no questions from other members we will proceed to Warrior lock and dam, Alabama. Pages 19, 20, and 21 will be inserted in the record.

(The information referred to is as follows:)

WARRIOR LOCK AND DAM, ALABAMA

(Continuing)

Location.—On the Warrior River, 49.6 miles above its confluence with the Tombigbee River, 6 miles southeast of Eutaw, Ala., and 15 miles northwest of Greensboro, Ala.

Authorization.—1909 River and Harbor Act (sec. 6).

Benefit-cost ratio.—2.20 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$12,830,000	
Estimated non-Federal cost	0	
Cash contributions	0	
Other costs	0	
Total estimated project cost	12,830,000	
Appropriations to June 30, 1956	6,058,000	
Appropriations for fiscal year 1957	4,580,000	
Appropriations to date	10,638,000	83
Appropriations requested for fiscal year 1958	2,192,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Dam:
- Type: Rolled earth fill.
- Height: 71 feet (maximum).
- Length: 1,490 feet.

Lock:
- Size: 110 by 600 feet.
- Maximum lift: 22 feet.

Spillway:
- Type: Gate controlled, concrete broad-crested weir with stilling basin.
- Capacity: (Normal pool) 56,000 cubic feet per second.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Entire project	45	Entire project, December 1957.
Acquisition of reservoir area	85	Land acquisition, December 1957.
Construction of access road and excavation for lock	100	Relocations, June 1957.
Construction of lock	41	Lock construction, October 1957.
Construction of dam	20	Dam construction, December 1957.
Reservoir clearing	15	River closure, August 1957.
		Lock in operation, October 1957.

JUSTIFICATION

The Warrior lock and dam is a modernization unit in the Tombigbee-Warrior Waterway between Demopolis lock and dam, now in operation, and the Tuscaloosa lock. It will replace the obsolete locks and dams Nos. 8 and 9, lock size 52 feet by 285 feet, which were built about 53 years ago, with a modern 110 by 600-foot lock having a maximum lift of 22 feet, thereby eliminating the multiple lockages now required and considerably reducing the time of travel. It will then be possible to handle more traffic in less time with consequent reduction in transportation costs. Reduction of traveltime on this waterway is considered to be of great importance, since it will permit the more rapid movement of critical materials along the Tombigbee-Warrior Waterway to and from the highly industrialized steel producing center of Birmingham, Ala. This waterway is vital to the needs of both the producers and consumers of steel in the South, with iron ore from the port of Mobile moving to the steel mills of Birmingham, and steel products from Birmingham moving to the shipyards and other industries at Mobile and along the gulf coast. A terminal to handle iron ore imports from South America was placed in operation at Mobile, Ala., in January 1954.

A total of 4,221,000 tons of commerce moved over the Black Warrior, Warrior and Tombigee Rivers in 1955. Some of the principal commodities were: pulpwood (147,000 tons), limestone (758,000 tons), sand and gravel (441,000 tons), rolled and finished steel products (479,000 tons), iron ore (681,000 tons), bituminous coal and lignite (423,000 tons), crude petroleum (324,000 tons), clays and earths (159,000 tons), motor fuel and gasoline (415,000 tons), and industrial chemicals (92,000 tons).

Fiscal year 1958.—The requested amount of $2,192,000 will be applied to:

Complete land acquisition	$44,000
Complete reservoir clearing	167,400
Initiate and complete demolition of old locks	75,000
Complete construction of dam	1,193,200
Complete construction of lock	413,700
Complete access roads	36,000
Complete lock approach channels	33,200
Complete buildings, grounds and utilities	35,000
Complete permanent operating equipment	26,200
Engineering and design	32,000
Supervision and administration	136,300
Total	2,192,000

The earliest possible completion of Warrior Lock and Dam is essential to assure continued movement of traffic over the waterway since the condition of lock 9 is considered to be very critical.

Non-Federal costs.—None.

Status of local cooperation.—None required.

Comparison of Federal cost estimates.—The current Federal cost estimate of $12,830,000 is a reduction of $1,770,000 from the latest estimate ($14,600,000) submitted to Congress. Lands and damages decreased $443,000 as a result of reevaluation of requirements based on more complete planning. Reservoir costs increased $237,000 because of an increase in area to be cleared and higher bid prices than originally estimated. The estimate for the lock and dam decreased $1,400,000 and for channel work by $100,000 because of favorable bids. The estimate for supervision and administration reduced by $175,000 based on cost experience for these Government costs. Refinements in estimates of other project features resulted in a net increase of $111,000.

Mr. RABAUT. I notice a welcome change from the usual pattern. The estimated cost of this project is down $1,770,000 from the figure given us last year. I also notice you are recommending a reduction in the 1958 request from the sum of $2,192,000 down to $2 million flat.

What conditions occasioned these revisions?

General HOEFFER. We had a very favorable cost experience on this past year's work. Our lands and damages decreased $443,000 as a result of a reevaluation of the requirements in the original planning. We had an increase in reservoir cost of $237,000 due to clearing and higher prices, but we made a saving of $1,400,000 in the dam and $100,000 in the channel work by virtue of favorable bids.

The reduction from $2,192,000 to $2 million as carried originally in the budget for this year is the result of a decrease in our contingencies from $407,000 to $215,000 in view of the degree of completion of the project.

SAVANNAH RIVER BELOW AUGUSTA

Mr. RABAUT. Next is the Savannah River below Augusta, Ga., and South Carolina. Pages 25, 26, and 27 for the record.

(The information referred to is as follows:)

SAVANNAH RIVER BELOW AUGUSTA, GA., AND S. C. (9-FOOT PROJECT)

(New start)

Location.—Channel extending from deep water in Savannah Harbor to the upper end of the Federal project at August, Ga., a distance of about 199 miles.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—1.20 to 1.0.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$4,230,000	
Estimated non-Federal cost	7,000	
Cash contribution	0	
Other costs	7,000	
Total estimated project cost	4,237,000	
Appropriations to June 30, 1956	0	
Appropriations for fiscal year 1957	40,000	
Appropriations to date	40,000	1
Appropriations requested for fiscal year 1958	835,000	21
Balance to complete after fiscal year 1958	3,355,000	

PHYSICAL DATA

Channels.—Channel 9 feet deep and 90 feet wide from Savannah Harbor to Augusta, Ga.

Status (January 1, 1957):
Completion schedule: October 1960.

JUSTIFICATION

The existing project for Savannah River below Augusta, Ga., is inadequate for present or reasonably prospective commerce. As a result, the one barge line now operating has done so only with great difficulty and new interests are not encouraged by the uncertain prospects of an adequate channel. Since completion of the Clark Hill Dam, a number of industries have evidenced interest in the possibility of utilizing the river for the movement of freight. Information has been furnished by local interests that several firms are negotiating for industrial

sites in the Augusta area, all of which are prospective users of the Savannah River Channel. One of the major oil companies has recently completed terminal facilities at Augusta, estimated to cost three-quarters of a million dollars, for the handling of petroleum products to be received by barge from Savannah. A municipal dock has been completed and placed in operation by the city of Augusta. The barge line now operating on the river has obtained an additional towboat and several new barges. Other shippers are interested in establishing barge-line service as soon as they can be assured of a safe channel with adequate depth. The provision of a channel 9 feet deep will permit barges to be loaded to full draft (8 feet) at all times and with the easing of the bends in the river towboats will be able to navigate the bends with 2 barges in tandem. This loading of barges to full draft and tows of at least two barges in tandem are considered necessary to provide the capacity to accommodate prospective traffic.

The improvement is urgently needed and is a logical step in the development of the Savannah River Basin for barge traffic between Augusta, Ga., and the Atlantic seaboard for the movement of commodities to and from the rich agricultural and industrial areas near Augusta. The improved channel is prerequisite to the continued economic well-being and development of the area.

Fiscal year 1958.—The requested amount of $835,000 will initiate construction and continue engineering and design of the project as follows:

Initiate dredging of channel and the construction of open channel restriction works	$670, 000
Engineering and design	110, 000
Supervision and administration	55, 000
Total	835, 000

The improvement is urgently needed to keep pace with the expanding economy of the region.

COMPLETED MODIFICATION—SAVANNAH RIVER BELOW AUGUSTA

The work completed provides for a channel 6 feet deep and 75 feet wide (at ordinary summer flow, which corresponds to a discharge of 4,000 second-feet at Augusta, Ga.) from the upper end of Savannah Harbor to the head of navigation at Augusta, a distance of about 199 miles. The improvements provided for one lock and dam at New Savannah Bluff, constriction works, closure of cutoffs, bank protection, removal of snags, overhanging trees, and wrecks, and the dredging of troublesome bars.

Non-Federal cost.—The initial investment required of local interests in the construction of the authorized project is estimated at $57,000. Necessary lands and easements (156 acres) are estimated to cost $7,000, and the city of Augusta has constructed municipal dock facilities at Augusta at a cost of about $50,000.

Status of local cooperation.—Local interests, acting through the Augusta Chamber of Commerce, agreed on August 25, 1955, to meet the prescribed requirements of local cooperation. Necessary rights-of-way and spoil-disposal areas will be provided prior to initiation of dredging. On January 25, 1956, the city of Augusta completed and formally opened a municipal dock facility at Augusta. This public wharf is open to any carrier on the river and its construction represents concrete evidence as to the interest of the city in a navigable channel between Augusta and Savannah Harbor. A legislative act establishing Augusta as an inland port was signed by the Governor of Georgia on February 17, 1956. This act also authorizes the expenditure of $250,000 for the construction and development of port facilities at Augusta. The city is actively negotiating with the State of Georgia for the early development of the authorized State port.

Comparison of Federal cost estimates.—No change from the latest estimate ($4,230,000) submitted to Congress. A $122,000 increase due to rising price levels was compensated by a corresponding decrease in estimated costs for engineering and design and for supervision and administration based on reanalysis of these items.

Mr. RABAUT. There is only one barge line operating in this channel now. Is this just for the benefit of this one line?

General HOEFFER. No, sir; it is for the benefit of general navigation. There is only one barge line operating at the present time because, with the conditions existing, it can handle the traffic without additional lines being put into use. However, there is consider-

able interest in the project and the city of Augusta, for instance, has completed its dock facilities for general use. The Texas Co. has completed their dock facilities, and just in the past session of the Georgia Legislature there was appropriated $250,000, I think, for further expansion.

Mr. RABAUT. What is the annual tonnage there and what do you anticipate it to be after this facility is completed?

General HOEFFER. The annual tonnage in 1955 was 54,000 tons. It is estimated, we haven't the exact figure yet, it was in excess of 70,000 tons in 1956. The anticipated commerce on completion of the project is 577,000 tons a year, with an ultimate of 977,000 tons estimated 10 years after completion of Clark Hill.

Mr. RABAUT. The benefit-cost ratio is only 1.2 to 1. If the new traffic you estimate did not develop, this ratio would drop well below 1 to 1.

General HOEFFER. No, sir. I think that is not correct. The anticipated B–C ratio if the expected 977,000 tons developed would be 2.34 to 1.

Mr. RABAUT. So the benefit-cost ratio should go up?

General HOEFFER. Yes, sir.

Mr. RABAUT. What is the 1.2 to 1 figured on?

General HOEFFER. That is based on the 577,000 tons anticipated right after this project is completed.

Mr. RABAUT. That is new tonnage that you estimate? You have 54,000 tons now, have you not?

General HOEFFER. Yes, sir, in 1955.

Mr. RABAUT. The estimate for 1956 is 70,000 tons?

General HOEFFER. Yes, sir.

Mr. RABAUT. If that doesn't go up this would not be 1 to 1?

General HOEFFER. That is correct, but the anticipated tonnage is 577,000 tons when the project is completed to the project depth and dimensions, and that is the figure on which the 1.2 to 1 is based.

Mr. RABAUT. Would you not say it is predicated on the hatch you expect to get?

General HOEFFER. It is a good deal like any business enterprise. You make no profits until you invest capital.

Mr. RABAUT. Is that customary, to calculate the benefit-cost ratio on the anticipated traffic increase?

General HOEFFER. Yes, sir.

Mr. RABAUT. You are not off very often. Is that right?

General HOEFFER. I think that is true. I can think of very few cases, one in fact, where I think we have failed.

Mr. RABAUT. What would it cost to maintain this project if it is built?

General HOEFFER. Estimated maintenance is $255,000 a year.

Mr. RABAUT. Is that taken into consideration in the cost-benefit ratio?

General HOEFFER. Yes, sir.

INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI

Mr. RABAUT. The next project is the Intracoastal Waterway, Jacksonville to Miami, Fla. Pages 30, 31, and 32 for the record.

(The information referred to is as follows:)

Intracoastal Waterway, Jacksonville to Miami, Fla.

(Continuing)

Location.—This waterway extends from St. Johns River (Jacksonville, Fla.) to Miami, Fla., following the canal constructed by the Florida Coast Line Canal & Transportation Co. Total length of the waterway is 349 miles.

Authorization.—1945 River and Harbor Act.

Benefit-cost ratio.—Not evaluated. Authorized in the interest of national security.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (Corps of Engineers) [1]	$19,400,000	
Estimated Federal cost (U. S. Coast Guard)	25,000	
Estimated non-Federal cost	1,500,000	
Cash contribution	0	
Other cost	1,500,000	
Total estimated project cost	20,925,000	
Appropriations to June 30, 1956	4,053,000	
Appropriations for fiscal year 1957	200,000	
Appropriations to date	4,253,000	22
Appropriations requested for fiscal year 1958	1,150,000	28
Balance to complete after fiscal year 1958	13,997,000	

[1] The budget commitment is only for the reach between Eau Gallie and Fort Pierce at this time at estimated cost of $3,136,000.

PHYSICAL DATA

Channel: St. Johns River to Miami, 12 feet deep, 125 feet wide, 349 miles long.
Status (January 1, 1957): St. Johns River to Eau Gallie, complete.
Completion schedule:
Eau Gallie to Sebastian: May 1958.
Sebastian to Fort Pierce: December 1959.

JUSTIFICATION

This waterway is an important part of the Intracoastal Waterway system, which has existing depths of 12 feet or greater as far south as Eau Gallie, Fla. During World War II the operations of enemy submarines off the Florida east coast made inside shipping quite desirable. However, due to the restrictive dimensions of 8-foot depth and 100-foot width, only a limited amount of the large potential freight used the waterway. Such movements were accomplished only with difficulty and with unnecessary expenditures of money, manpower, and critical materials.

During the last few years, commercial traffic in the waterway between St. Johns River and Fort Pierce has averaged about 76,000 tons a year. The population increase of the tributary area of about 60 percent since 1950 has resulted in an increased demand for freight transport that requires improvement of service if the demand is to be met. Completion of the waterway to Fort Pierce will enable freight traffic, both through and local, to navigate with greater safety and speed at less operating cost. Its completion will also extend the 12-foot channel southward an additional 50 miles to the deepwater port of Fort Pierce.

Completion of this reach of the waterway also will afford a protected inside passage for many of the larger craft now required to sail outside because of the restrictive dimensions of the incompleted channel between Eau Gallie and Fort Pierce.

Fiscal year 1958.—To complete dredging of the enlarged channel between Eau Gallie and Sebastian, $1,150,000 will be required in fiscal year 1958.

COMPLETED MODIFICATIONS, INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI

Work completed consists of enlarging the original channel to 8 feet deep and 100 feet wide between St. Johns River and Miami, and provision of the turning basin in the vicinity of Jacksonville Beach by local interests. The cost of this completed work is $7,251,000 for the main channel; the turning basin was essentially provided by local interests during construction of a highway at no cost to the United States.

REMAINING AUTHORIZED MODIFICATIONS, INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI

A further modification in the 1945 River and Harbor Act provides for dredging a turning basin at Vero Beach, 8 feet deep, 1,140 feet wide on the waterway side and 280 feet wide at the shoreline. Work will be initiated on this modification in fiscal year 1957, estimated to cost $27,000.

Non-Federal costs.—The cost to local interests of complying with the requirements of local cooperation as set forth in the authorizing legislation for the main channel is $1,500,000 for lands and damages, about $600,000 of which has been expended to date.

Local interests also incurred costs of $2,750,000 in complying with the requirements of local cooperation for previous work accomplished on the main channel. Local interests are required to provide a bulkhead at Vero Beach turning basin, under another authorized modification, at an estimated cost of $11,000.

Status of local cooperation.—The Florida Inland Navigation District adopted a resolution on August 2, 1946, assuring the United States that the requirements of local cooperation pertaining to construction and maintenance of the channel would be fulfilled; the requirements concerning alteration of bridges, cables, pipelines, and other structures were not assumed by the navigation district but their alterations or removal is adequately covered in the Department of the Army permits under which original authority for their construction was granted. Local interests have not as yet furnished the small amounts of rights-of-way and spoil areas required for the 12-foot channel enlargement between Eau Gallie and Fort Pierce. However, they are actively engaged in obtaining them and plan to furnish those needed between Eau Gallie and Fort Pierce prior to the scheduled award of contracts.

Comparison of Federal cost estimates.—The current Federal cost estimate of $19,400,000 is an increase of $600,000 over the latest estimate ($18,800,000) submitted to Congress. This increase is due to inclusion in the estimate payment of $650,000 to the Florida State Road Department for assuming title to and permanent maintenance and operation of Palm Valley Bridge, and reduction of $50,000 in the estimated cost of the remaining channel dredging.

Mr. RABAUT. Funds for this project were disallowed by the House last year because we were not convinced that it was necessary for national defense. However, the Senate put it back in the bill and funds were appropriated.

Describe this $20 million project and tell us again why you think it is necessary for national defense.

General HOEFFER. The justification for the Intracoastal Waterway from Jacksonville to Miami is based on national defense as brought out during World War II when a protected route for shipping from Miami to Jacksonville was very badly needed. That was evidenced by the number of submarine sinkings off the east coast of Florida and off the Florida Keys and all the way around from the gulf to the mouth of the Mississippi River.

It we are to have this waterway available for use in time of war emergency we will have to dig it now. We cannot wait until then to dig it.

Mr. RABAUT. What would you say to the argument that this is preparing for the last war and not a possible future war? Many of your colleagues in high places in the Department of Defense tell us the next war, if there is one, will be won or lost in a matter of hours.

General HOEFFER. Of course, this would be a personal opinion, but there are certain facilities of defense in Florida which will require fuel to make it possible for us to win this war in a matter of minutes or hours. I would like to be sure we can get it there. There is no assurance there will not be submarines lying off the coast sinking shipping.

Mr. RABAUT. This will give you a chance to avoid the submarines?

General HOEFFER. Yes, sir.

Mr. RABAUT. In the absence of war what commerce would use this new channel which could not use the channel presently in existence?

General HOEFFER. Modern barge traffic is more economical with larger and deeper draft barges that can use this waterway at the present time. It is reasonable to expect that a greater tonnage of sand, gravel and other bulk commodities would utilize the waterway once it became available.

ST. AUGUSTINE HARBOR, FLA.

Mr. RABAUT. Next is St. Augustine Harbor, Fla. Pages 35, 36, and 37 for the record.

(The information referred to is as follows:)

ST. AUGUSTINE HARBOR, FLA.

(Continuing)

Location.—St. Augustine Harbor is on the east coast of Florida about 35 miles south of the mouth of the St. Johns River.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—1.4 to 1 (San Sebastian River only. No benefit-cost ratio has been determined for other work, since the improvement was authorized to reduce maintenance of an established navigation channel.)

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost:		
Corps of Engineers	$1,263,000	
United States Coast Guard	6,000	
Estimated non-Federal cost	6,000	
Cash contribution	0	
Other costs	6,000	
Total estimated project cost	1,275,000	
Appropriation to June 30, 1956	163,000	
Appropriation for fiscal year 1957	500,000	
Appropriations to date	663,000	52
Appropriations requested for fiscal year 1958	600,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channels: In San Sebastian River from the Intracoastal Waterway to King Street Bridge, 10 feet deep, 100 feet wide, 2.6 miles long.

Jetties: South jetty, 2,800 feet long with spur groin, apron protection, and 900 feet of riprap revetment.

Status (January 1, 1957): Channel in San Sebastian River, complete.

Completion schedule: South Jetty, June 1958.

JUSTIFICATION

The inlet channel to St. Augustine Harbor provides access for established navigation between the ocean and the protected waters of the Intracoastal Waterway. Since opening of a new inlet in 1940, the bar channel has shifted almost with the tides to the extent that it has been all but impossible to maintain navigation aids necessary for the safety of life and property.

Jetty protection of the entrance channel is required to prevent complete or partial failure of existing works and to protect life and property.

Fiscal year 1958.—To complete construction of the south jetty, $600,000 will be required in fiscal year 1958. The active project will be completed with the funds required in fiscal year 1958.

COMPLETED MODIFICATIONS—ST. AUGUSTINE HARBOR

Work completed consists of the inlet cut through the barrier beach (Vilano Beach Old North Point) connecting Tolomato River and the Atlantic Ocean, and a north jetty with a landward groin extension. The Federal cost of this completed work is $393,000.

REMAINING MODIFICATIONS

None.

Non-Federal costs.—The estimated cost to local interests of complying with the requirements of local cooperation as set forth in the authorizing legislation for protection of the inlet and provision of the channel in San Sebastian River is $6,000 for lands and damages.

In complying with the requirements of local cooperation for the completed modification, local interests incurred costs of $149,500, consisting of a cash contribution of $137,500 and $12,000 for lands and damages.

The St. Augustine Port, Waterway, and Beach Commission on July 22, 1955, adopted a resolution assuring the United States that the requirements of local cooperation will be supplied. Local interests have acquired rights-of-way required for the project.

Comparison of cost estimates.—The current Federal cost estimate of $1,263,000 is a decrease of $1,257,000 from the latest estimate ($2,520,000) submitted to Congress. Of this decrease, $594,000 is due to receipt of favorable bids for the south jetty; $623,000 is based on reclassification of the conditionally authorized north jetty to deferred for restudy until determination can be made as to its need, and on the elimination of dredging in the entrance channel where project depth now prevails; and $40,000 is due to completed channel work and a reevaluation of engineering and design requirements based on costs experienced on projects of similar type and magnitude.

TAMPA HARBOR, FLA.

Mr. RABAUT. Are there any questions on St. Augustine Harbor?

If not we will go on to Tampa Harbor, Fla. Insert pages 40 through 43 in the record.

(The information referred to is as follows:)

TAMPA HARBOR, FLA. (34-FOOT PROJECT)

(Continuing)

Location.—Channel from Gulf of Mexico to Tampa, with interior channels to Port Tampa and the Alafia River terminal, total dredging length of 49 miles.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—3.2 to 1.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost (Corps of Engineers)
Estimated Federal cost:		
Corps of Engineers	$12,000,000	
United States Coast Guard	172,000	
Estimated non-Federal cost	862,000	
Cash contribution	0	
Other costs	862,000	
Total estimated project cost	13,034,000	
Appropriations to June 30, 1956	977,000	
Appropriations for fiscal year 1957	4,000,000	
Appropriations to date	4,977,000	41
Appropriations requested for fiscal year 1958	2,250,000	60
Balance to complete after fiscal year 1958	4,773,000	

Physical data

	Depth (feet)	Dredging length (miles)	Width (feet)
Channels or basins:			
Egmont Channels	36	5.1	600
Mullet Key Cut	34	3.2	500
Tampa Bay channels	34	15.8	400
Hillsboro Bay channels	34	11.8	400
Sparkman Channel and Ybor turning basin	34	1.6	400
Port Tampa Channel and turning basin	34	8.3	400
Alafia River Channel and turning basin	30	3.6	200

Status (Jan. 1, 1957)

	Percent	Completion schedule
Egmont Channel and Mullet Key cut	67	Tampa Bay channels, March 1957.
Tampa Bay channels	86	Egmont Channel and Mullet Key cut, January 1958.
Remaining channels	(1)	Hillsboro Bay channels, May 1958.
		Sparkman Channel and Ybor turning basin, January 1959.
		Port Tampa channels and turning basin, September 1959.
		Alafia River and turning basin, March 1960.

[1] Not started.

JUSTIFICATION

Tampa Harbor, the most important port on the gulf coast of Florida, serves a large tributary area. The volume of commerce handled by the harbor has steadily increased from 5,436,202 tons in 1949 to 10,656,046 tons in 1955, a 96 percent increase. Many complaints have been received on the inadequacy of existing widths and depths.

Large tonnages of petroleum products (4,945,667 tons in 1955) for civilian and military use, phosphate (3,398,905 tons in 1955), sulfur, fertilizer, iron and steel articles, grain, fresh and canned vegetables and fruits, forest products, cement, and other commodities move in volume through the harbor in modern deep-draft vessels.

Tanker operators state that an average of 10 hours per vessel trip at a cost of about $122 per hour, or about $1,220 net per trip, is lost awaiting high tide at Tampa Harbor. Likewise, operators and agents of the major steamship lines state that an average of 8 hours per vessel trip, at a cost of about $80 per hour, or $640 per trip, is lost by their ships awaiting high tide in the harbor. Delays will increase as the volume of commerce increases.

A large volume of fuel now moves between Port Tampa via a pipeline to a tank farm at MacDill Air Force Base, whence it is distributed to other permanent Air Force bases at Orlando and Cocoa Beach, Fla. Current plans include enlarging the existing pipeline and the construction of additional tanks to provide a considerably increased capacity.

Enlargement of the channels to the upper harbor and to Port Tampa will reduce the layover time of modern deep-draft vessels and will permit the carrying of greater loads of petroleum products.

Fiscal year 1958.—To complete the outer cuts and Hillsboro Bay Channel and to initiate Sparkman Channel and Ybor turning basin, the requested amount of $2,250,000 will be required. This work, when completed, will provide access to the rapidly expanding port facilities on Sparkman Channel and other parts of the upper habor. The funds will be applied as follows:

Complete Egmont Channel and Mullet Key cut	$320,000
Complete Hillsboro Bay channels	1,580,000
Initiate Sparkman Channel and Ybor turning basin	130,000
Subtotal	2,030,000
Engineering and design	85,000
Supervision and administration	135,000
Total	2,250,000

COMPLETED MODIFICATIONS, TAMPA HARBOR

Work completed consists of a 30-foot channel (32 feet in Egmont Channel) to Port Tampa (including a turning basin), a 30-foot channel to Tampa, including Seddon, Garrison, and Ybor channels, and a 12-foot channel at the mouth of Hillsboro River. The cost of completed work is $10,184,000.

REMAINING AUTHORIZED MODIFICATIONS, TAMPA HARBOR

Work remaining to complete the project consists of dredging a channel 9 feet deep and 100 feet wide in Hillsboro River for about 2.4 miles above the upper end of the existing 12-foot channel, and removal of obstructions thence to the Florida Avenue Bridge as authorized by the 1945 River and Harbor Act; and the extension of snagging and clearing in Hillsboro River 3 miles to the city waterworks dam as authorized by the 1954 River and Harbor Act. No work has been initiated on these modifications which are estimated to cost $216,000.

Non-Federal costs.—The costs to local interests of complying with the requirements of local cooperation as set forth in the authorizing legislation for the 34-foot channels (36 feet in Egmont Channel) is estimated as follows: Lands and damages, $2,000; additional or strengthened bulkhead and retaining works adjacent to channels of upper harbor, $10,000; and increased slips and berthing space with necessary terminal facilities at Port Tampa based on plans approved by the Chief of Engineers in September 1955, $850,000—a total of $862,000.

Local interests have incurred costs of between $2 million and $3 million in complying with the requirements of local cooperation for completed modifications.

In addition, local interests have incurred costs of many millions of dollars in dredging and providing port facilities in Tampa Harbor since consolidation of several projects to form a single project for Tampa Harbor in 1922.

Status of local cooperation.—The Hillsborough County Port Authority on July 11, 1955, adopted a resolution assuring the United States that all requirements of local cooperation would be fulfilled. Rights-of-way and spoil areas for work programed through fiscal year 1957 have been furnished. Preliminary negotiations for lands and relocations required for work programed to start in fiscal year 1958 are underway and all requirements are expected to be furnished well in advance of the scheduled date of advertising. The Atlantic Coast Line Railroad has submitted through the Hillsborough County Port Authority, a plan of improvement for its slip at Port Tampa, which has been approved by the Chief of Engineers. In submitting the plan, the railroad stated that they were prepared to commence work concurrently with construction of Port Tampa Channel and turning basin.

Comparison of Federal cost estimates.—The current Federal cost estimate of $12 million is an increase of $1,200,000 over the latest estimate ($10,800,000) submitted to Congress. $500,000 of this increase is on Tampa Bay channels due to increased quantities. Hillsborough Bay channels was increased $830,000 and Egmont Channel and Mullet Key cut were reduced $140,000, based on detailed preconstruction surveys and more recent dredging cost data. Dredging for the remainder of the project was increased $145,000 based on reanalysis of contingency allowances. Engineering and design and supervision and administration were reduced $105,000, based on experienced cost for projects of this type and magnitude.

ATLANTIC INTRACOASTAL WATERWAY (MASONBORO INLET)

Mr. RABAUT. The next project is the Atlantic Intracoastal Waterway, Masonboro Inlet, N. C. Insert pages 46 through 48 in the record.

(The information referred to is as follows:)

ATLANTIC INTRACOASTAL WATERWAY, MASONBORO INLET, N. C.

(Continuing)

Location.—Channels extending from the Atlantic Ocean through the bar of Masonboro Inlet to the channel of the Intracoastal Waterway at Wrightsville Beach, N. C., by way of Banks and Motte Channels with a turning basin on the east side of Banks Channel near the inlet. Length of channels is 3 miles.

Authorization.—1950 River and Harbor Act.

Benefit-cost ratio.—1.41 to 1 (dredging only).

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	$426,000	
Estimated non-Federal cost	3,000	
Cash contribution	0	
Other costs	3,000	
Total estimated project cost	429,000	
Appropriation to June 30, 1956	0	
Appropriation for fiscal year 1957	120,000	
Appropriation to date	120,000	28
Appropriation requested for fiscal year 1958	306,000	100
Balance to complete after fiscal year 1958	0	

PHYSICAL DATA

Channels: Atlantic Ocean across bar at Masonboro Inlet, 14 feet deep, 400 feet wide, about 2,600 feet long. Banks and Motte Channels, 12 feet deep, 90 feet wide, about 2.5 miles long.

Turning basin: On Banks Channel inside Masonboro Inlet, about 300 feet by 700 feet, 15 feet deep with 3 tie-up dolphins.

Status (Jan. 1, 1957): Not started.

Completion schedule:

Banks and Motte Channels: June 1957.

Turning basin: June 1957.

Bar Channel: June 1958.

JUSTIFICATION

There is no inlet with depths adequate to serve deeper-draft commercial fishing vessels between the mouth of the Cape Fear River and Beaufort Inlet. Frying-Pan Shoals extends oceanward about 20 miles from Cape Fear, which requires vessels to the north of the shoals to travel a considerable distance to reach the mouth of the Cape Fear River. The area north of Frying Pan Shoals is excellent for fishing and shrimping, but the long distance from an adequate outlet greatly reduces the time that fishermen can safely fish in the area. The menhaden-reduction plants in North Carolina are in two areas, near Southport, and in the vicinity of Morehead City and Beaufort. If the improved channels and the basin are provided, loaded vessels can reach both areas by the Atlantic Intracoastal Waterway. A more stable and deeper inlet would also aid recreational fishing and pleasure boating, which are important activities in the tributary area.

Fiscal year 1958.—The amount of $306,000 will be required to initiate and complete hopper-dredging the 14-foot bar channel through Masonboro Inlet, which will complete the entire improvement.

COMPLETED MODIFICATIONS, ATLANTIC INTRACOASTAL WATERWAY (WILMINGTON DISTRICT)

Completed work consists of the 12-foot through waterway and appurtenant structures between the North Carolina-Virginia State line and Little River, S. C., a 12-foot side channel and basin at Swansboro; a 6-foot side channel in New River from the waterway to New River Inlet; a 10-foot side channel in New River to Jacksonville, including a basin; and a boat basin and connecting channel, 12 feet deep, at Southport. Total costs for completed modifications are $9,402,000.

REMAINING AUTHORIZED MODIFICATIONS—ATLANTIC INTRACOASTAL WATERWAY (WILMINGTON DISTRICT)

A modification in the 1950 River and Harbor Act authorized a pumping plant and a dam, with control gates and appurtenant work on Fairfield Canal, near Fairfield, the dredging of various canals, and the provision of closure gates in several canals, for which $195,000 has been made available to accomplish this work.

The modification approved by the 1950 River and Harbor Act for Masonboro Inlet also included a jetty on each side of the inlet, to be constructed only when and if found to be necessary.

A modification in the 1954 River and Harbor Act authorized a channel to and basin 12 feet deep in Peltier Creek, west of Morehead City. No work has been

initiated on this modification, which is estimated to require $51,000 of Federal funds.

No work has been initiated on the following two modifications, which have been placed in a deferred status and will require restudy before construction is undertaken: A modification in the 1927 River and Harbor Act authorized a tidal lock in Snow Cut near the Cape Fear River; and a modification in the 1948 River and Harbor Act authorized a 12-foot channel in New River to Jacksonville, and a basin of the same depth.

Non-Federal costs.—Local interests are required to furnish all lands, easements, rights-of-way, and spoil-disposal areas. The cost of providing these items of local cooperation is estimated to be $3,000.

The requirements of local cooperation for completed modifications included the expenditure of about $100,000 by local interests for a 1,000-foot right-of-way for the through channel of the waterway as required by the River and Harbor Act of 1927, and the furnishing of rights-of-way, spoil-disposal areas, and terminal facilities for side channel improvements required by the acts of 1935, 1937, and 1938. The cost to local interests for providing these items of local cooperation is estimated at about $2,000.

Status of local cooperation.—The Board of County Commissioners of New Hanover County, N. C. has submitted a resolution, dated December 10, 1956, stating that all requirements of local cooperation will be met. The board has instituted action toward securing permits for disposal areas. No rights-of-way will be required.

Comparison of Federal cost estimate.—No change from the latest estimate submitted to Congress ($426,000).

Mr. RABAUT. The first appropriation for this project was in the Second Supplemental Appropriation Act of 1957. It was put in by the Senate without a budget request. Have you ever asked for funds for this project and do you think it is worth the money?

General HOEFFER. We have not asked for funds for the project. We do, however, feel it is worth the money. It has a favorable benefit-cost ratio and it is ultimately needed for the fishing commerce particularly in that part of the Carolinas.

BENEFIT-COST RATIO

Mr. RABAUT. The benefit-cost ratio on this project has not been changed, has it?

General HOEFFER. No, sir.

Mr. RABAUT. It still stands at 1.41 to 1?

General HOEFFER. Yes, sir.

Mr. RABAUT. There is a note saying this ratio is figured on dredging only. What does that mean?

General HOEFFER. The 1.41 to 1 does not include the breakwaters or jetties which may have to be provided to protect the entrance to the channel.

Mr. RABAUT. Would that enter into and affect the cost-benefit ratio?

General HOEFFER. If the jetties are found to be necessary their cost should be included in the determination of the benefit-cost ratio.

Mr. RABAUT. Then your $426,000 as the estimated cost is not very firm, is it?

General HOEFFER. It is firm so far as the dredging is concerned. We do not know whether we will need jetties or not. It would not be firm if the jetties are necessary.

Mr. RABAUT. What would the jetties amount to dollarwise?

General HOEFFER. In the project document adopted in 1949 the jetties were estimated at $1,590,000.

Mr. RABAUT. That is quite important in a project that is now only one-third of that amount. The benefit-cost ratio is 1.41 to 1. You add the sum just quoted to the $429,000 and it will shoot the ratio figure down to way less than 1 to 1.

Colonel PENNEY. The jetties are deferred. We have not included them in the evaluation.

Mr. RABAUT. I know they are not included.

Colonel PENNEY. They would be constructed only if and when found necessary.

Mr. RABAUT. You know what the situation is likely to be there. That will fill up, you will say you have dredged it twice, and you had better build the jetties. That figure is not firm at all unless you people are fairly certain about those jetties.

General HOEFFER. The project document shows with the jetties there is a benefit-cost ratio of 1.05 to 1 as of the time this document was adopted.

Mr. RABAUT. At what figure was this adopted?

General HOEFFER. Estimated cost could be expected to go up since the date of this, but by the same token estimated benefits probably have, also.

Mr. RABAUT. What is that?

General HOEFFER. The 1.41 to 1 is exclusive of the jetties and the 1.05 to 1 includes the jetties.

Mr. RABAUT. And that is predicated upon a figure arrived at 7 or 8 years ago.

General HOEFFER. They would have to be adjusted.

Mr. RABAUT. When would you be certain about this whole thing? Do you have to spend money to find out if you need the jetties?

General HOEFFER. No, sir; not to find out if we need the jetties. We will have to determine after maintenance of the project for several years whether or not the jetties can be justified or are needed. If they are not needed they should not be built.

Mr. RABAUT. From your knowledge of the case what would you say?

General HOEFFER. We have some other examples along the Atlantic coast in that part of the country where there are no jetties. We also have examples where there are some jetties. St. Augustine is an example where we have one jetty under construction, and we deferred the construction of the extension to the other jetty to see whether it is necessary. There is some doubt that it would be.

CENTRAL AND SOUTHERN FLORIDA

Mr. RABAUT. All right, unless there are questions we will go on to the project "Central and southern Florida." Insert pages 51 through 55 in the record.

(The information referred to is as follows:)

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost	[1] $228,455,000	
Estimated non-Federal cost	[1] 72,775,000	
Cash contribution	37,845,000	
Other costs	34,930,000	
Total estimated project cost	301,230,000	
Appropriation to June 30, 1956	29,324,000	
Appropriations for fiscal year 1957	8,750,000	
Appropriations to date	38,074,000	17
Appropriations requested for fiscal year 1958	5,500,000	19
Balance to complete after fiscal year 1958	184,881,000	

[1] Based on an interim division of cost of contracts and supervision and administration, 85 percent Federal, 15 percent non-Federal, pending congressional action on a restudy undertaken in accordance with the 1954 Flood Control Act.

CENTRAL AND SOUTHERN FLORIDA

(Continuing)

Location.—Central and Southern Florida in upper St. Johns and Kissimmee River Basins and Lake Okeechobee-Everglades-east coast areas.

Authorization.—1948 and 1954 Flood Control Acts.

Benefit-cost ratio.—3.7 to 1.

Physical data

	East coast-Everglades area	Lake Okeechobee-Everglades area	Kissimmee River Basin	Upper St. Johns River Basin
Levees:				
Total length (miles)	240	376	6	115
Minimum to maximum height (feet)	2 to 16	2 to 25	2 to 7	2 to 21
Relocations: Railroad bridges (number)	23	10	2	3
Canals (miles)	147	76	191	75
Pumping plants:				
Number of structures	2	9		
Total capacity (gallons per minute)	1,535,000	10,230,000		
Floodway control and diversion structures (number)	44	6	34	9

Status (Jan. 1, 1957) completion schedule

	East coast-Everglades area		Lake Okeechobee-Everglades area		Kissimmee River Basin and related areas		Upper St. Johns River Basin and related areas	
	Percent completed	Completion schedule	Percent completed	Completion schedule	Percent completed	Completion schedule	Percent completed	Completion schedule
Relocations	27	Not scheduled	2	Not scheduled	0	June 1960	0	April 1961.
Channels and canals	14	do	0	do	0	Not scheduled	0	June 1962.
Levees	15	do	21	do	0	June 1957	0	Not scheduled.
Pumping plants	99	January 1957	52	do				
Floodway control and diversion structures	16	Not scheduled	0	do	0	Not scheduled	0	Do.

Project: 15 percent completed.

JUSTIFICATION

The project, embracing some 15,570 square miles in central and southern Florida, would afford a high degree of flood protection; it would provide for removal of excess waters in wet seasons, and for their control, storage and use in maintaining water levels during dry periods. The project would, incidentally, provide for preservation of fish and wildlife resources and would reduce the salinity intrusion into land and water supplies of coastal areas. Flooding is recurrent and frequent. The most notable flooding of recent years occurred in 1947 when rains accompanying two hurricanes following an unusually wet season caused flood damages estimated at $59,692,700 in the project area. The project works would have prevented about $49,972,000 of those damages. Estimated annual benefits currently total $47,512,600 for the total project.

Fiscal year 1958.—The requested amount of $5,500,000, Federal funds, will be applied as follows:

East coast-Everglades area:	
Initiate:	
C–8	$170,000
S–28 on C–8	102,000
Continue:	
C–7 and C–7 extension	425,000
C–18	510,000
Complete:	
C–17 and S–44	204,000
S–11	204,000
S–27 on C–7	153,000
S–46 on C–18	306,000
Lake Okeechobee-Everglades area:	
Initiate:	
S–8, machinery	170,000
S–8, structure	85,000
Continue:	
L–23 and L–24	765,000
S–7, structure	425,000
S–7, machinery	348,500
Complete:	
L–5, intermediate	119,000
L–6, intermediate	76,500
S–3, structure	103,700
Subtotal	4,166,700
BOTH AREAS	
Engineering and design, total	950,000
Supervision and administration on:	
Engineering	50,000
Contracts	333,300
Subtotal	383,300
Total Federal funds, both areas	5,500,000

Enlargement of C–8 and construction of related works will provide immediate relief to a large urban area north of Miami and Opa locks which was flooded during 1947 and 1948. Development in this area in recent years has been rapid, and recurrence of floods of equal severity would cause widspread damages and disruption of normal activities. The machinery and structure for pumping station 8 are scheduled at this time to permit completion of this item, which provides major protection to the agricultural area, concurrently with related levee and canal work.

C–7 and C–7 extension, will minimize flood damages in a highly developed area of Miami; L–23 and L–24 will permit delivery of water to pumping station 3 for rapid removal in emergencies for reduction of flood hazard to lands in western part of the agricultural area; pumping station 7 will permit more rapid removal of floodwaters from the developed area of the Lake Okeechobee agricultural area;

C–18 will contribute toward immediate flood relief in the raipdly expanding agricultural and urban area in the vicinity of Jupiter.

Completion of S–11, remainder will allow operation of the structure to conserve the water in conservation area No. 2 during dry periods for basic supply for the Davie area immediately west of Fort Lauderdale, now wasted in conservation area No. 3. C–17 and S–44 will contribute toward immediate flood relief in the rapidly expanding agricultural and urban areas northwest of West Palm Beach; L–5, intermediate and L–6, intermediate will complete the protective encirclement of the Lake Okeechobee agricultural area; and S–3, structure is required for immediate benefits from works nearing completion.

Non-Federal costs.—The investment required of local interests in construction of the total project, some of which is on an interim basis pending congressional action on restudy undertaken in compliance with the 1954 Flood Control Act, is currently estimated at $72,775,000, broken down as follows:

Lands and damages	$22, 070, 000
Relocations	12, 630, 000
Contribution	[1] 37, 845, 000
Review plans and specifications	230, 000
Total	72, 775, 000

[1] Computed on an interim basis whereby cost of contracts and supervision and administration are divided 85 percent Federal and 15 percent non-Federal.

Local interests are required to maintain and operate a large part of the project upon completion which includes all works in the east coast Everglades area except the gated spillways, and all works in the Lake Okeechobee Everglades area except the features directly controlling and/or protecting Lake Okeechobee. The annual cost to local interests for maintenance and operation is estimated at $1,991,800.

In addition, local interests are preparing preliminary plans of secondary works for the project which it is estimated will cost $80 million. The estimate of the annual maintenance of the secondary works is $500,000.

Local interests also have an estimated $2 million program of emergency construction for prevention of damages on which over $844,000 have been spent.

Status of local cooperation.—The Central and Southern Florida Flood Control District on August 1, 1949, and September 15, 1954, adopted resolutions assuring the United States that the requirements of local cooperation will be supplied for works authorized by the Flood Control Acts of 1948 and 1954, respectively.

Local interests have to date satisfactorily met all local cooperation requirements. Rights-of-way for 13 of the 16 items of work requiring lands for fiscal year 1957 have been acquired. Acquisition for the remaining three items prior to scheduled advertising has been assured by the flood control district. Local interests have assured that lands required for fiscal year 1958 would be available by advertisement dates.

Comparison of cost estimates.—The current total estimated cost of construction (Federal and non-Federal) is $266,300,000, an increase of $127,400,000 over the latest total construction estimate of $138,900,000 submitted to Congress last year for the planned items only. Since the cash contribution for the work authorized by the Flood Control Act of 1954 has not yet been determined, the interim contribution of 15 percent of the cost of construction has been used for the 1954 modification in the current estimate pending determination of the contribution to be required. On this basis the Federal cost of construction for the overall project now presented is $228,455,000 as compared to a Federal cost of $120 million presented last year for planned items, an increase of $108,455,000. This increase is due almost entirely to the inclusion of all the heretofore unplanned items of the comprehensive plan, since the planning for the project has progressed to the extent that a reasonable estimate of the entire project can now be made. Some slight reduction in cost estimated at $3 million has been effected on that portion of the project represented by the $120 million presented last year, resulting from prices experienced and design modifications.

BENEFIT-COST RATIO

Mr. RABAUT. Last year you had completed only the evaluation of about half of this entire project, and the benefit-cost ratio at that time on that part completed was 6 to 1.

Now that you have completed this evaluation the ratio has dropped to 3.7 to 1. The additional area added must have very low benefit-cost ratio.

General HOEFFER. That is not the case.

Mr. RABAUT. What brings it about?

General HOEFFER. There is a great deal more added both in costs and benefits. I can give you the benefit-cost ratio by broad areas to show you what they are on this restudy if you would like.

The main area is the east coast Everglades area where the benefit-cost ratio is now 5.3. The Lake Okeechobee Everglades area has a ratio of 3.7. The Kissimmee River Basin has a ratio of 2.0, and the upper St. Johns River Basin, 2.1.

Colonel PENNEY. May I try to explain that in a couple words, sir?

Mr. RABAUT. Yes.

Colonel PENNEY. The benefit-cost ratio of last year of 6 to 1 was based, as you stated, on the items planned to date which were about 50 percent. And we did concentrate very hard this year on bringing the planning of the whole project to a point where we could compute the cost properly and the benefits for the whole project.

In doing that the final computation shows that the benefit-cost ratio for the whole project, which in the project document was 2.05, is now 3.7.

For the portion that was in the first part of the authorization it was 4.7 and for the portion which was in the second part of the authorization it is 2.9, so essentially what the 6.0 represented was the fact that most of the items that had been planned by last year were items that did have higher benefits. We were concentrating on the more beneficial portion of the project first, sir.

Mr. RABAUT. That is what I said. Those things added have a much lower benefit-cost ratio.

Colonel PENNEY. That is right, but they are extremely well justified by 2.9 to 1, sir.

Mr. RABAUT. I have been down and looked at this project. I flew over the entire area.

BREAKDOWN OF BENEFITS

Last year you calculated the flood control benefits amounted to about 21 percent of the total benefits to be gained from this project. Practically all the rest would be accounted for by increased land use.

Now that the entire project has been evaluated what is the breakdown?

Colonel PENNEY. The overall breakdown, sir, for the whole project is 32 percent flood control and 68 percent increased land use.

Mr. RABAUT. Are you buying land down there?

Colonel PENNEY. The Federal Government is buying none, sir. Local interests are providing the land.

Mr. RABAUT. Some of this land went up from nothing to a large amount?

Colonel PENNEY. There have been substantial increases in cost of land; yes.

Mr. RABAUT. Are you acquainted with the value of land down there?

Colonel PENNEY. Generally we are; yes, sir.

Mr. RABAUT. How much is acreage worth down there in this area?

Colonel PENNEY. It depends on where it is.

Mr. EDEN. It varies with the various areas. Along the east coast agricultural land would be worth about $600 an acre. In the Okeechobee area the central portion of the area is worth about $200 an acre, and in the remainder of the area, in the upper St. Johns River it is from $60 to $75 an acre.

Mr. RABAUT. That is the portion above Lake Okeechobee?

Mr. EDEN. Yes, sir.

Mr. RABAUT. That is where they are doing a lot of grazing now.

Mr. EDEN. Yes, sir; that is a valuable cattle area, sir.

Mr. RABAUT. Cattle have done well with the development of these new grasses?

Mr. EDEN. Yes, sir.

Mr. RABAUT. There has been a tremendous increase in the number of cattle in the State?

Mr. EDEN. Tremendous.

LOCAL CONTRIBUTION

Mr. RABAUT. As you well know, the committee has been critical of this project because of the high percentage of land-reclamation benefits and the low percentage of local contributions. What are the corps' recommendations as a result of the restudy required by the 1954 Flood Control Act?

General HOEFFER. Recommendations are that the cash contribution for the second phase of the project be increased from 15 to 20 percent. The original authorization was a 15 percent cash contribution.

In addition to that there was a limitation on how much the local interests were required to contribute and the corps has recommended that that be discontinued and that there be no cash limitation or ceiling placed on the total contribution by local interests to the project.

In addition, they must furnish the rights-of-way and easements.

Mr. RABAUT. You have some figures here that are hard to reconcile. You have 32 percent of this improvement for flood control and 68 percent for land enhancement.

When it comes to the contribution it is 20 percent.

Colonel PENNEY. That is based on this: The local interests will have to pay, according to our recommendation and according to the existing authorization, all the costs of lands which are substantial, the cost of operation and maintenance of the project——

Mr. RABAUT. You mean cost of land used in the project?

Colonel PENNEY. Yes, sir.

Including cost of lands and the relocations they will have to pay approximately 31 percent of the project.

Mr. RABAUT. Including what?

Colonel PENNEY. Lands and relocations they have to make, such as bridges. Their share would be 31 percent.

Mr. RABAUT. But the land enhancement is 68 percent.

Colonel PENNEY. That is right. We based it roughly on a comparison of what is being done in other flood-control projects but using Budget Circular A–47 as a guide which provides that for enhancement

benefits the Federal Government has a general interest. According to A–47 as a guide it is 50 percent of the enhancement, sir.

Mr. RABAUT. My colleague on the committee, Mr. Kirwan, always has thought that this should be financed like a reclamation project. He expressed himself on it several times, as I remember it.

What would be the local contribution if this were a reclamation project?

Colonel PENNEY. If this were a reclamation project it wuold be comparable to what we have recommended. What we have done in the study actually is to compare this project to the average of reclamation projects as contained in published data of some 59 reclamation projects prior to 1939, and we find that the average contribution would be about 33 percent of the first costs allocated to reclamation.

In this case ours is approximately that.

For the reclamation projects in the Missouri Basin since the war, according to this published data also, it is considerably less than that percentage, sir, so we feel that this recommendation is reasonable and compares favorably with reclamation experience.

We do not deny, Mr. Chairman, and as we have indicated in the sharing report which is being submitted to the Congress now, that the enhancement benefits in this project are analagous to reclamation benefits. However, we feel that the original cost sharing, and again this report, does take that into consideration.

Mr. RABAUT. What is the status of these recommendations?

General HOEFFER. The recommendations have been concurred in by the Bureau of the Budget and they are in process of being transmitted to the Congress.

Mr. RABAUT. Have there been any other new developments in connection with this project that should be called to the attention of the committee?

General HOEFFER. No, sir. I believe that the cost-distribution study plus the fact that the planning has been completed to include all the planned items now accounts for everything in which the committee had an interest.

FORT GAINES LOCK AND DAM

Mr. RABAUT. We will now take up the Fort Gaines lock and dam. We will insert pages 62, 63, and 64 in the record.

(The information referred to follows:)

FORT GAINES LOCK AND DAM, ALABAMA AND GEORGIA

(Continuing)

Location.—On the Chattahoochee River, 75.2 miles above the mouth, about 1.1 miles north of the town of Fort Gaines, and about 60 miles south of Columbus, Ga.

Authorization.—1946 River and Harbor Act.

Benefit-cost ratio.—1.03 to 1 for the authorized project for the Apalachicola, Chattahoochee, and Flint Rivers, of which Fort Gaines lock and dam is an integral unit.

Summarized financial data

	Amount	Accumulated percent of estimated Federal cost
Estimated Federal cost (ultimate installation)	$88,000,000	
Estimated non-Federal cost	525,000	
Cash contribution	0	
Other costs	525,000	
Total estimated project cost	88,525,000	
Appropriations to June 30, 1956	2,406,000	
Appropriations for fiscal year 1957	3,000,000	
Appropriations to date	5,406,000	6
Appropriations requested for fiscal year 1958	6,600,000	14
Balance to complete after fiscal year 1958	75,994,000	

PHYSICAL DATA

Dam:
Type: Concrete gravity with earth embankments on each bank.
Height: 114 feet (maximum).
Length:
1,175 feet: Concrete section.
11,940 feet: Earth embankment (concrete section is exclusive of intake structure and lock).

Reservoir capacity:	*Acre-feet*
Power	210,000
Minimum pool	715,000
Total	925,000

Spillway:
Type: Gate controlled, concrete ogee weir with stilling basin.
Capacity: (Maximum pool) 662,000 cubic feet per second.
Power installation:
Presently planned and ultimate: 4 units 32,500 to 130,000 kilowatts.
Nominal Head: 75 feet.
Lock:
Size: 82 by 450 feet.
Maximum lift: 88 feet.

Status (Jan. 1, 1957)

	Percent	Completion schedule
Entire project	4	Entire project: December 1962.
Acquisition of reservoir area	5	Land acquisition: May 1961.
Relocations	2	Relocations: November 1961.
Construction of earth embankment	40	Power on line:
Construction of spillway cofferdam	100	1st unit: 32,500 kilowatts, May 1962.
Construction of roads	3	2d unit: 32,500 kilowatts, July 1962.
		3d unit: 32,500 kilowatts, September 1962.
		4th unit: 32,500 kilowatts, November 1962.

JUSTIFICATION

The Fort Gaines Dam is an integral unit of the Apalachicola, Chattahoochee, and Flint Rivers comprehensive plan. Jim Woodruff, Buford, Fort Gaines and Apalachicola River Channel improvement are now under construction. Remaining unit to complete the improvement is Columbia. Fort Gaines will add 130,000 kilowatts of capacity and about 436 million kilowatt-hours of energy annually. The power from this project is urgently needed and would be readily absorbed. Completion of the entire improvement for the Apalachicola, Chattahoochee, and Flint Rivers also will exert a beneficial influence on the economic structure of the entire region by providing more economical transportation. The raising of the pool of Jim Woodruff Dam to final level is now scheduled to begin January 1, 1957. The channel improvement downstream from Jim Woodruff Dam is scheduled to be

completed in February 1957 to provide a 9-foot-deep channel permitting navigation from the mouth of the Apalachicola River, where it connects with the intracoastal canal, to Bainbridge on the Flint River and to the town of Columbus on the Chattahoochee River. The principal navigation benefits from the overall improvement, however, will only accrue after the entire river stretch to the metropolitan area of Columbus, the head of navigation, has been developed by completion of Fort Gaines and Columbia projects.

Fiscal year 1958.—The requested amount of $6,600,000 will be applied to:

(*a*)	Continue land acquisition	$1, 800, 000
(*b*)	Continue railroad relocations	500, 000
(*c*)	Continue construction of spillway	3, 104, 000
(*d*)	Continue procurement of turbines and generators	296, 000
(*e*)	Engineering and design	550, 000
(*f*)	Supervision and administration	350, 000
	Total	6, 600, 000

Non-Federal costs.—The initial cost to local interests for terminal facilities is $525,000. Local interests will also be required to operate 3 movable bridge spans in the waterway traversing the Fort Gaines Reservoir. This cost is estimated to be $18,000 annually.

Status of local cooperation.—Local interests at Columbus, Ga., and Phenix City, Ala., have expressed willingness to construct suitable terminal facilities to meet the demand of river-borne traffic.

Comparison of Federal cost estimates.—The current Federal cost estimate of $88 million is an increase of $1,600,000 over the latest estimate ($86,400,000) submitted to Congress. Lands and damages increased $1,634,000 because of additional improvements in the reservoir area and changes in land use. Construction of the earth embankment decreased $434,000 because of favorable bid prices. Reservoir access roads and recreation facilities increased $400,000 as a result of further design studies.

Mr. RABAUT. This is another project in the Apalachicola, Chattahoochee and Flint system that we discussed earlier.

Why has the estimated cost of this project gone up from $86,400,000 to $88 million during the last year?

General HOEFFER. The increase in cost of $1,600,000 results from an increase in lands and damages of $1,634,000, which is necessitated by the fact that between the time the project was authorized and the time construction was undertaken people improved the area in which we had to acquire land.

Mr. RABAUT. How much was the land increase and how much were the improvements?

General HOEFFER. We do not have it broken down that way. I will furnish that for the record, sir.

Mr. RABAUT. Do you not know how much improved property you had to condemn there that you did not expect to?

General HOEFFER. We have not condemned it all, sir. We are in the process. This is an estimate.

Mr. RABAUT. This looks bad. How often do you have this situation where the costs for lands and damages increase so greatly?

General HOEFFER. You can expect it on any project on which there is a long period of delay between authorization and initiation of construction, particularly in a rising economy such as we have been having.

Mr. RABAUT. Where is this project located on the map?

General HOEFFER. The Fort Gaines project is the second one from the top there.

Mr. RABAUT. You are going to supply the breakdown of this increase for the record?

General HOEFFER. Yes. We will give you the estimated breakdown of that $1,634,000 as between lands and damages.

(The information referred to follows:)

The estimated increased cost for lands is $1,389,000, and for improvements $245,000.

Mr. RABAUT. It is about 6 percent completed, is that right?

General HOEFFER. Yes, sir.

Mr. RABAUT. You are requesting $6,600,000 to bring it up to 14 percent. What are these other costs of $525,000?

General HOEFFER. Those are terminal facilities which are required to be provided by local interests under the terms of the project document. They are primarily public docks which will be available to all users.

Mr. RABAUT. In what way would the economic benefits to be derived from the other projects in this system be affected if Fort Gaines is not completed?

General HOEFFER. We would only get a small portion of the navigation benefits that could be expected. All navigation would stop in the Jim Woodruff pool.

Mr. RABAUT. I asked that question because the benefit-cost ratio is 1.03 to 1 for the authorized project, for the entire system, of which Fort Gaines lock and dam is an integral unit; is that right?

General HOEFFER. That is correct.

Mr. RABAUT. Are there any questions before we go to operation and maintenance?

INTRACOASTAL WATERWAY, JACKSONVILLE TO MIAMI

Mr. FENTON. How deep is this 350-mile intracoastal channel?

General HOEFFER. At the present time, the Intracoastal Waterway, Jacksonville to Miami project is 8 feet at the lower end and is authorized for 12 feet throughout. That is what we are working on now.

Mr. FENTON. How much commerce do you say is going up and down?

General HOEFFER. We did not cover commerce, but the commerce in 1954 between Jacksonville and Miami was 630,677 tons. In 1955 it was about the same, 623,884. We do not have the commerce for 1956.

Mr. FENTON. What kind of vessels are used?

General HOEFFER. They are towboats with barges.

Mr. FENTON. Towboats?

General HOEFFER. Principally. The commercial traffic is mostly towed traffic.

Mr. FENTON. What kind of cargoes?

General HOEFFER. Sand, gravel, fuel oil, some fertilizers, limestone.

Mr. FENTON. Mostly fuel oil?

General HOEFFER. A good part of it is oil, but there is a substantial part of that which is also sand and gravel. Also pulpwood is an item I overlooked.

STATUS OF PROJECTS ON APALACHICOLA, CHATTAHOOCHEE, FLINT SYSTEM

Mr. FENTON. Now as to the last project, the Fort Gaines lock and that whole series of projects, what is the actual construction status

of each of the projects of the Apalachicola, Chattahoochee, and Flint system?

General HOEFFER. The Buford lock and dam, the one farthest upstream, is expected to be completed this calendar year.

Mr. FENTON. Buford?

General HOEFFER. Yes, sir. We will point them out on the map here. That is a multiple-purpose dam, flood control, navigation, and power, with recreation and wildlife thrown in as benefits.

That will be completed this calendar year.

Coming downstream, the Fort Gaines Dam on the Chattahoochee is under discussion here, will be 14 percent completed with the appropriation in fiscal year 1958.

The next one downstream is Columbia lock and dam, for which planning money was appropriated last year and more is asked for this year.

Mr. FENTON. What is the actual construction on the Columbia?

General HOEFFER. No construction has been started on the Columbia.

Mr. FENTON. How about Fort Gaines?

General HOEFFER. Actual construction is estimated at about 6 percent at the end of this fiscal year. It is on schedule.

Mr. FENTON. Has it been started?

General HOEFFER. Yes, sir. We have a number of contracts, one completed. We have three large continuing contracts let that are underway, plus a good deal of land acquisition.

Mr. FENTON. What are the average annual navigation tonnage figures and ton-miles expected on this system?

General HOEFFER. The annual expected commerce is 1,227,000 tons. We do not have it in ton-miles.

Mr. FENTON. What per ton-mile benefit was used in arriving at the navigation benefits?

General HOEFFER. I do not believe we have that. We will try to supply that for you.

Mr. FENTON. And the ton mileage too.

General HOEFFER. Ton mileage and ton-mile benefits.

(The information referred to follows:)

The expected annual commerce is estimated to be 227 million ton-miles. The average benefit used in determining total navigation benefits is $0.108 per ton-mile.

Mr. FENTON. What is the breakdown by major commodities for the expected tonnage?

General HOEFFER. We will have to supply that for the record.

(The information referred to follows:)

The breakdown of expected commerce by major commodities is as follows:

	Tons
Coal	400,000
Stone	71,000
Petroleum products	314,000
Lumber and shingles	102,000
Industrial chemicals	106,000
Fertilizer and fertilizer materials	75,000
Agricultural products	53,000
Disinfectants	34,000
Metal and metal products	40,000
Miscellaneous items	32,000
Total	1,227,000

Mr. FENTON. You say you have some power in that dam up there?

General HOEFFER. There is power in the Buford Dam. There will be power in the Fort Gaines Dam and there is power in the Jim Woodruff Dam. Two of the dams will be completed this year. Power is already being generated at Jim Woodruff. There are 3 dams with power and 1 without power.

Mr. FENTON. Put in the record or tell us now the expected average annual kilowatt-hour output for each of those.

General HOEFFER. Yes, sir. The annual kilowatt-hour to be generated for Fort Gaines is expected to be 436 million kilowatt-hours. Buford is 170 million kilowatt-hours. Jim Woodruff is 210 million kilowatt-hours.

Mr. FENTON. What per kilowatt-hour value is used for power benefits?

General HOEFFER. The value per kilowatt-hour for the Fort Gaines project is 8.82 mills.

Mr. FENTON. And the kilowatt-hour cost?

General HOEFFER. The cost per kilowatt-hour is 6.59 mills.

Mr. FENTON. For all three?

General HOEFFER. That is Fort Gaines.

Mr. FENTON. What about the other two?

General HOEFFER. For Buford the value per kilowatt-hour is 14.56 mills and the cost is 9.05 mills. For Jim Woodruff the value per kilowatt-hour is 5.91 mills and the cost is 5.01 mills.

Mr. FENTON. That is all, Mr. Chairman.

OPERATION AND MAINTENANCE

Mr. RABAUT. We will take up the last category for this drainage area now, "Operation and maintenance," $8,723,800. We will put pages 67 through 72 into the record.

(The information referred to follows:)

1. Navigation

(*a*) *Channels and harbors.*—The budget estimate of $6,130,000 provides for essential maintenance work on 29 channel and harbor projects named in the list which follows. The work to be accomplished under this activity consists of maintaining the navigation channels and harbors and anchorages of coastal harbors and waterways by means of dredging, snagging, operation of navigation structures, and repairing revetments and channel stabilization structures; periodic inspections and surveys to determine conditions of the projects for programing purposes and providing navigation interests with adequate information on existing channel conditions; all as authorized in the laws adopting river and harbor projects. This budget estimate includes $50,000 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
ALABAMA							
Bayou Coden				5.0		5.0	Dredging.
Gulf Intracoastal Waterway (Mobile)	131.4	327.3	164.0	75.0		239.0	Do.
Mobile Harbor	256.0	325.5	270.0			270.0	Do.
Removal, water-hyacinths (Mobile)	14.0	20.8	20.0			20.0	Removal of hyacinths obstructing navigation.
FLORIDA							
Atlantic Intracoastal Waterway (Jacksonville to Miami)	186.7	169.5	180.0	105.0		285.0	Dredging.
Charlotte Harbor	52.0			61.0		61.0	Do.
East Pass Channel	28.6	25.0		30.0		30.0	Do.
Fort Pierce Harbor	33.1	45.0		81.0		81.0	Do.
Jacksonville Harbor	364.9	65.2	4.0	285.0		289.0	Do.
Miami Harbor	7.4	7.0	7.0			7.0	Maintenance of revetments.
Palm Beach Harbor	14.0	63.5		40.0		40.0	Do.
Port Everglades Harbor				50.0		50.0	Dredging.
Removal, water hyacinths (Jacksonville)	52.2	62.2	61.0			61.0	Removal of hyacinths obstructing navigation.
Tampa Harbor		109.0	3.0	50.0		53.0	Dredging.
Port St. Joe Harbor		110.0		102.0		102.0	Do.
Panama City Harbor	89.4	60.9	86.0			86.0	Do.
Pensacola Harbor				117.0		117.0	Do.
GEORGIA							
Atlantic Intracoastal Waterway (Savannah)	143.7	110.0	111.0			111.0	Do.
Savannah River below Augusta	66.1	151.0	71.0			71.0	Dredging, operating locks and maintenance of structures.
Savannah Harbor	1,091.0	1,155.5	1,206.0			1,206.0	Dredging.
MISSISSIPPI							
Gulfport Harbor	237.0	310.1	214.0			214.0	Do.
NORTH CAROLINA							
Atlantic Intracoastal Waterway (Wilmington)	231.6	290.2	269.0			269.0	Dredging and operation and maintenance of navigation facilities.
Channel from Back Sound to Lookout Bight	1.7			35.0		35.0	Dredging.
Morehead City Harbor	189.7	180.0	170.0			170.0	Do.
Wilmington Harbor	217.3	440.6	422.0			422.0	Do.
SOUTH CAROLINA							
Atlantic Intracoastal Waterway (Charleston)	147.0	180.0	214.0			214.0	Do.
Georgetown Harbor	170.0	200.0	305.0	38.0		343.0	Do.
Charleston Harbor	639.0	1,194.0	671.0	425.0		1,096.0	Dredging and maintenance of channel stabilization works.
Shipyard River	105.2	140.0	142.0			142.0	Dredging.
Project condition surveys	35.1	52.0	41.0			41.0	
Other projects: Maintenance periodically	500.9	713.2					
Total, channels and harbors	5,005.0	6,507.3				6,130.0	

(*b*) *Locks, dams, reservoirs, and canals.*—The budget estimate of $1,395,000 for the operation and maintenance of 5 canalized waterway projects in the basin provides the minimum amount necessary for operational requirements, including $37,000 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work. The amount requested for maintenance recurring annually is the necessary operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts required for the day-by-day functioning of the projects. Periodic or one-time requirement is indicated under remarks below.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total, fiscal year 1958	Remarks
			Annual	Periodic			
ALABAMA							
Black Warrior and Tombigbee Rivers.	987.5	1,013.5	939.0	55.0	0	994.0	Repair lock valves and gates.
FLORIDA							
Okeechobee Waterway	89.9	120.6	82.0	25.0	0	107.0	Dewater and repair Ortana lock.
Oklawaha River	91.7	14.1	19.0	0	0	19.0	
LOUISIANA							
Pearl River, La. and Miss	115.6	132.0	151.0	0	12.0	163.0	Replacement of pile clusters at locks.
NORTH CAROLINA							
Cape Fear River above Wilmington.	68.8	111.1	79.0	33.0	0	112.0	Spillway and embankment repairs, lock No. 1.
Total locks, dams, reservoirs and canals.	1,353.5	1,391.3	.....	.....	.....	1,395.0	
Total navigation	6,358.5	7,898.6	.....	.....	.....	7,525.0	

2. Flood control

(*a*) *Reservoirs.*—None.

(*b*) *Other (including channel improvement projects, miscellaneous items, and inspections).*—The budget estimate of $70,800 provides for the minimum annual and periodic maintenance requirement of the local flood-protection project and inspection of 13 completed works during the budget year. This estimate includes $10,200 of the $5 million provided for in the budget for reduction of the backlog of urgently needed maintenance work.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
FLORIDA							
Central and Southern Florida	114.2	100.2	57.0	13.0	.....	70.0	Annual maintenance of levees, operation and maintenance of hurricane and spillway gates, repair of structures and channel clearing.
Inspection of completed works	1.1	.7	.8	.....	.....	.8	
Total flood control, other	115.3	100.9	.....	.....	.....	70.8	

3. Multiple purpose projects including power

The budget estimate of $1,128,000 for the operation and maintenance of 4 multiple-purpose projects provides the minimum amount necessary for annual operational requirements. The placing in maintenance status additional features on 2 of the projects during fiscal year 1957 accounts for $187,000 of the necessary increase for operation and ordinary maintenance of project facilities; labor, supplies, materials, and parts required for the day-by-day functioning of the projects.

Obligations

[In thousands of dollars]

Project	Fiscal year 1956	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated) recurring maintenance		One-time repairs	Total fiscal year 1958	Remarks
			Annual	Periodic			
FLORIDA							
Jim Woodruff Dam	81.4	120.1	197.0	0	0	197.0	
GEORGIA							
Allatoona Reservoir	212.1	224.7	236.0	0	0	236.0	
Clark Hill Reservoir	425.7	476.6	505.0	0	0	505.0	
Buford Reservoir	.....	80.0	190.0	0	0	190.0	
Total, multiple purpose	719.2	901.4	.....	.....	.....	1,128.0	
Total, Gulf and South Atlantic Basin	7,193.0	8,900.9	.....	.....	.....	8,723.8	

Mr. RABAUT. I notice that Savannah Harbor is budgetd for $1,206,000 and Charleston is budgeted for $1,096,000. Both are very expensive to maintain for harbors of their size. What is the reason it costs so much for these two?

General HOEFFER. The maintenance costs on both these harbors have been very high. The maintenance, of course, has been lowered year by year on a per-ton basis in that the commerce at both of these harbors has increased.

However, we have been making a very determined effort to find ways and means to decrease the maintenance cost. In the case of Charleston Harbor a model study has been completed and some of the measures which were recommended as a result of the model study are being implemented. So we anticipate a reduction in the Charleston Harbor maintenance costs very shortly.

In the case of Savannah Harbor a model study is underway. It is not complete yet and no recommendations are available. However, we expect in turn to benefit from that study and reduce the maintenance costs there.

Mr. RABAUT. You have $70,000 requested for the central and southern Florida project. What maintenance and operation expenses are borne by local interests and what expenses are borne by the Federal Government?

General HOEFFER. The only maintenance and operation charges now borne by the Federal Government in the central and southern Florida project are those connected with navigation in the St. Lucie Canal and Caloosahatchee River and Lake Okeechobee itself, and the flood-control levees on Lake Okeechobee and the outlet capacity necessary to pass the flood discharges from Lake Okeechobee during hurricane and high-water seasons.

The other maintenance and operation charges for the central and southern Florida project are the responsibility of the Central and Southern Florida Flood Control District.

Mr. RABAUT. How much will the total expense to local interests be in 1958 compared with the estimated $70,000 of the Federal expenses?

General HOEFFER. The nearest figure I have for that, Mr. Chairman, would be——

Colonel PENNEY. On an average annual basis for this whole project when completed the estimated cost of O. and M. to local interests is $1,991,800.

Mr. RABAUT. For what period?

Colonel PENNEY. For each year, sir.

Mr. RABAUT. What will it be for the Federal Government?

Colonel PENNEY. $360,000, sir.

Mr. RABAUT. Are there any questions?

The committee is adjourned until tomorrow morning at 10 o'clock

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THURSDAY, MAY 2, 1957.

REMAINING ITEMS, CORPS OF ENGINEERS

Mr. RABAUT. The committee will come to order.

This morning we are going to take up remaining items, Corps of Engineers.

GENERAL INVESTIGATIONS, CORPS OF ENGINEERS

We will place in the record at this point the summary which appears on page 2 of the justifications.

(The page follows:)

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GENERAL INVESTIGATIONS, FISCAL YEAR 1958

1. Examinations and surveys:	
(*d*) Special studies:	
(6) Watershed Protection Act studies	$52,000
(7) Hurricane studies	1,055,000
2. Collection and study of basic data:	
(*a*) Stream gaging (Geological Survey)	212,000
(*b*) Precipitation studies (Weather Bureau)	318,000
(*c*) Fish and wildlife studies (Fish and Wildlife Service)	53,000
Total, collection and study of basic data	583,000
3. Research and development:	
(*a*) Beach erosion development studies	210,000
(*b*) Hydrologic studies	150,000
(*c*) Civil works investigations	1,335,000
(*d*) Mississippi Basin model	810,000
Total, research and development	2,505,000

WATERSHED PROTECTION ACT STUDIES

Mr. RABAUT. The first item is in the amount of $52,000 for "Watershed Protection Act studies."

With reference to this item we will insert into the record at this point page 3 of the justifications.

(The page follows:)

GENERAL INVESTIGATIONS, FISCAL YEAR 1958

I. EXAMINATIONS AND SURVEYS

(*d*) *Special studies*

(6) *Watershed Protection Act studies.*—The amount of $52,000 is requested for continuing studies for fiscal year 1958 to make possible more effective field cooperation with the Department of Agriculture in its activities under the Watershed Protection and Flood Prevention Act of 1954, as amended. Section 5 of Executive Order No. 10,584, dated December 18, 1954, required that cognizance be taken of constructed and contemplated upstream and downstream works, with a view to developing the best overall basin programs. As the agency responsible for the overall basin flood-control feature of such basin programs, the Corps of Engineers must provide the Department of Agriculture with information on proposed undertakings and the probable effect thereon of contemplated watershed programs. Moreover, if found necessary to attainment of the best and least costly basin program, as called for by the Executive order previously referred to, the corps must adjust its plans accordingly. To enable it to meet these obligations, the Corps of Engineers proposes to undertake special studies of the interrelationships in selected river basins. To the extent possible such studies will be carried out in collaboration with the Department of Agriculture in an effort to achieve the coordination required by Executive Order No. 10,584.

PROGRESS IN COOPERATION WITH THE DEPARTMENT OF AGRICULTURE

Mr. RABAUT. What progress do you have to report in achieving more effective field cooperation with the Department of Agriculture?

Colonel REIFF. Sir, I think I can report that we have made some substantial progress in our coordination with the Department of Agriculture. We have reviewed all of the watershed-work plans that have been referred to the corps by the Department of Agriculture under this program, and in commenting on these programs we have accepted the degree of flood protection that was recommended by the Department of Agriculture for the agricultural areas.

We commented on the projects that were protecting urban areas to the effect that we though the degree of protection should be increased.

After a conference with the Engineering Division of the SCS, they accepted our suggestion on this, and we therefore feel we made a contribution to the understanding in that respect.

We have been able to work out an agreement with SCS on the comprehensive study of the Delaware, and we are providing funds for their participation in that major program.

I feel we have made some progress in developing the understanding of the local and national organizations who are particularly interested in the watershed protection program. The Chief of Engineers has appeared before the regional meetings of the National Association of Soil Conservation Districts. We have met with that board of directors here in Washington, and I am sure we have contributed to a better understanding by these people on the relation between the two programs. I think we are making some real progress, sir.

HURRICANE STUDIES

Mr. RABAUT. The next item is in the amount of $1,055,000 to continue the hurricane studies.

We will insert pages 4 and 5 of the justifications into the record at this point.

(The pages follow:)

GENERAL INVESTIGATIONS, FISCAL YEAR 1958

I. EXAMINATIONS AND SURVEYS

(*d*) *Special studies*

(7) Hurricane studies:

Total estimated cost	$4, 100, 000
Appropriations through June 30, 1956	1, 002, 000
Appropriations for fiscal year 1957	1, 400, 000
Appropriations requested for fiscal year 1958	1, 055, 000
Balance to complete after fiscal year 1958	643, 000

The amount of $1,055,000 is requested for fiscal year 1958 to continue the survey study of hurricane characteristics, forecasting and warning services, and economic measures of protection, initiated in fiscal year 1956 under the authorization of Public Law 71, 84th Congress. The sum of $1,400,000 was provided for this purpose in fiscal year 1957. The estimated cost of the study is about $4,100,000.

The hurricanes of recent years, particularly those of 1938, 1944, 1954, and 1955 have caused extensive and unprecedented damage to property and large loss of life along the eastern seaboard. Those of 1954 particularly resulted in tremendous damages to shore and other property estimated at over $300 million in New England alone and additional damages occurred southward to the Carolinas. The hurricanes of August and October 1955, in addition, produced rainfalls of record proportions in many coastal river basins between North Carolina and New England causing some of the greatest flood damage and devastation experienced in single flood events in the United States, when over 200 lives were lost and direct damages alone were estimated to be in excess of $750 million.

The hurricane study under way is proceeding in cooperation with the Weather Bureau and other Federal and State agencies. Work accomplished by the Weather Bureau which is needed for the hurricane study and not as part of the regular Weather Bureau authorized program, will be reimbursed from the Corps' appropriations. Any work of a similar nature required from other agencies and needed for the hurricane study but not for the regularly authorized work of such agencies, will also be reimbursed. Except for the Weather Bureau, it is not anticipated that reimbursements of this nature will be other than minor amounts. The cooperation between the Corps and other agencies concerned with hurricanes is in conjunction with the authorizing act and will form a basis for sound conclusions in reaching the desired objectives.

Funds provided in fiscal year 1957 are being used for hydrometeorological and hydrodynamic studies of hurricanes, damage surveys, and project feasibility analyses and interim reports at a number of localities. The funds requested for

fiscal year 1958 will permit the completion of several other interim reports on critical shore areas that have experienced excessive damage and further progress on studies of forecasting and engineering measures to minimize future loss of life and property damage.

RESULTS ACHIEVED IN HURRICANE STUDIES

Mr. RABAUT. What results have you achieved with the $2.4 million appropriated to date?

Colonel REIFF. We have established our coordination with the other agencies that have some responsibility under this program. The field has completed the survey on two programs, Narragansett Bay and New Bedford-Fair Haven, and they have been submitted. The Board of Engineers for Rivers and Harbors will consider them in their meeting of the 21st of May of this year.

We have 14 other reports scheduled for completion by the field during this calendar year, and there are 11 others, about which we know, which will be initiated. That, so far as I know, now, will constitute the areas that we are expecting to study under this program.

Mr. RABAUT. I notice that you do not show the percentage here, but there will only be remaining after this request for $1,055,000 a balance of $643,000 out of the original amount of $4.1 million.

Colonel REIFF. Yes, sir.

COLLECTION AND STUDY OF BASIC DATA

Mr. RABAUT. A total of $583,000 is requested for collection and study of basic data, including stream gaging, precipitation studies and fish and wildlife studies.

We will insert pages 6 to 8 of the justifications into the record at this point.

(The pages follow:)

GENERAL INVESTIGATIONS, FISCAL YEAR 1958

2. COLLECTION AND STUDY OF BASIC DATA

(*a*) *Stream gaging* (*Geological Survey*)

In the planning, design, and operation of projects for flood control, navigation, hydroelectric power development, and other water uses, continuous records of streamflow measurements over a long period of years are of prime importance. These streamflow records provide a measure of the water resources available for useful purposes, including low-water flows during drouth periods as well as the magnitude of floods to be controlled, during the periods of observation. The records also provide a means of extrapolating additional information when studied in conjunction with storms producing the observed runoff. The value of these streamflow records is largely dependent upon uninterrupted station operation over a long period of years in which a maximum range of discharge from minimum to maximum flows may be observed.

The United States Geological Survey, under its normal functions, maintains a primary network of stream-gaging stations that was planned to meet the general needs of the public insofar as available funds permitted. Inasmuch as this basic network was not sufficiently dense in all regions to provide suitable records of streamflow for use in planning, design, and operation of specific river improvement projects for which the Department of the Army is responsible, funds have been transferred to the Geological Survey in recent years to cover in part the cost of installing and operating specific stream-gaging stations necessary for such purposes. To continue the operation of these stations that are of special importance to the Corps of Engineers in connection with authorized activities, a total of $1,481,000 would be required by the Geological Survey during fiscal year 1958, exclusive of funds received by that agency from other cooperative sources. This

total amount includes funds to be transferred by the Department of the Army to the Geological Survey, as well as funds appropriated directly to the Survey expressly for use in operation of stream-gaging stations required by the Corps of Engineers.

Of the total of $1,481,000, the amount of $302,000 is being included in the budget estimates for fiscal year 1958 submitted by the Geological Survey for expenditure on the stream-gaging program required by the Department of the Army. The amount of $212,000 is included in the Corps of Engineers budget estimates under "Collection and study of basic data" for transfer to the Geological Survey. In addition to the above amounts, it is estimated that funds in the amount of $967,000 will also be transferred to the Geological Survey from funds budgeted elsewhere for authorized projects and studies.

2. COLLECTION AND STUDY OF BASIC DATA

(*b*) *Precipitation studies* (*Weather Bureau*)

Two separate activities are funded under this item; one a rain-gage program and the other a technical service organization in the Weather Bureau. Each of these activities are discussed in the following paragraphs.

(1) The hydroclimatic network of precipitation stations operated by the United States Weather Bureau was established to supplement the network of meteorological stations with additional precipitation stations, particularly of the continuous recording type, so as to provide the Corps of Engineers with a density of stations and type of record that would be adequate for present and future development of water resources. While required and fully justified for specific river-improvement projects for which the Department of the Army is responsible, the program is also partially satisfying a long-existent deficiency in recording precipitation data. These data, for which there is no substitute, are used by all Federal, State, and other agencies and individuals dealing with water resources. As with all hydrologic data, the value of the records is largely dependent upon uninterrupted station operation.

An increase in funds, over that provided in recent years, is urgently required to initiate a replacement of reconnaissance-type rain gages that have been in operation for 15 years or more. Limitations in available funds during recent years have necessitated the following action: (*a*) Elimination of urgently needed basic data stations; (*b*) reduction in maintenance of the stations, and (*c*) in nonreplacement of wornout equipment. The reduced maintenance, adopted as an emergency measure, has accelerated the deterioration of the gages. Accordingly, the funds budgeted herein for this item, as totaled below, include an amount of $24,000 for replacement of equipment.

(2) The hydrometeorological studies required by the Corps of Engineers are made by the Weather Bureau. This activity includes review of the meteorological aspects of the storm-study program utilized by the Corps of Engineers in the planning, design, and operation of water-control structures. As a result of this review activity, the Weather Bureau has developed a new and unique science of estimating maximum probable precipitation. Numerous maximum probable precipitation estimates are required in order to provide the Corps of Engineers with basic meteorological data needed to insure the adequate design of large structures whose failure would result in disastrous loss of life and property.

The amount of $318,000 is needed during fiscal year 1958 for transfer to the Weather Bureau for the above essential programs. In addition to this amount, it is estimated that an amount of $382,000 will be transferred to the Weather Bureau from funds budgeted elsewhere for authorized projects and studies.

(*c*) *Fish and wildlife studies*

Funds in the amount of $53,000 are needed to permit detailed studies and reports on individual navigation and flood control projects of the Corps of Engineers throughout the United States, exclusive of the Missouri River Basin, which are not yet authorized for construction and which are not listed separately for special study in the general investigations section of the budget.

By law (act of August 14, 1946; 60 Stat. 1080), the Fish and Wildlife Service is required to determine the effects on fish and wildlife resources of water-control projects of the Corps of Engineers and other Federal agencies and private agencies under Federal license and to recommend measures for the protection of these resources. The act authorizes the transfer of funds for these investigations to the Fish and Wildlife Service from moneys appropriated to the Corps of Engineers and other Federal construction agencies for surveying, engineering, or construction, and provides that the costs of the investigations are to be treated as project costs.

In its studies of corps' projects in the preauthorization stage, the Service determines whether the net effects will be beneficial or detrimental to fish and wildlife. If detrimental effects are anticipated, the Service report on the project recommends specific measures for preventing or reducing losses to these resources. The corps' report on the same project discusses these recommendations and indicates their acceptability. Mutually acceptable damage-prevention measures are then included in the project plans and the costs of these measures are included as an integral part of project costs in accordance with the provisions of the act of August 14, 1946.

Recommended damage-prevention measures include minimum releases from reservoirs to protect downstream fisheries; minimum pools in reservoirs to maintain reservoir fisheries; protective screening to prevent fish from entering turbine intakes and diversions; fish-passage facilities; fish hatcheries to maintain runs artificially where passage is not feasible; selective-reservoir clearing to facilitate fish and wildlife utilization; and acquisition and development of land areas to serve as compensatory wildlife habitat. In some instances, in addition to damage-prevention measures, the Service also recommends, when appropriate, that certain public lands and waters acquired for project use and deemed suitable for wildlife management purposes, be made available to State or Federal conservation agencies, subject to agreements mutually acceptable to the Secretaries of the Army and Interior and the head of the appropriate State conservation department.

The funds requested herein ($53,000) will permit the Fish and Wildlife Service to conduct detailed studies in connection with about 30 individual projects during fiscal year 1958.

INCREASE IN PRECIPITATION STUDIES

Mr. RABAUT. The major increase over the current level is an additional $74,000 for precipitation studies by the Weather Bureau.

Why is this necessary?

Colonel REIFF. This money, sir, or $14,000 of it, is required for the new law that was passed last year requiring a 6.5-percent contribution to the retirement fund, and the balance of it——

Mr. RABAUT. How much was the amount of the contribution to the retirement fund?

Colonel REIFF. $14,000, is the 6.5-percent contribution to the retirement fund.

The balance of it is needed to replace and increase the coverage in the rain-gage program of the Weather Bureau.

This program is of extreme importance and is only of benefit in so long as we have continuous records available.

Over the last few years many of these rain gages have become worn out and oboslete, and this money is to replace them and install new one in areas where we do not have sufficient coverage.

RESEARCH AND DEVELOPMENT

Mr. RABAUT. For "Research and development" you are requesting a total of $2,505,000.

At this point in the record we will insert pages 9 through 16 of the justifications.

(The pages follow:)

3. RESEARCH AND DEVELOPMENT

(*a*) *Beach erosion development studies*

The amount of $210,000 is required in fiscal year 1958 for the conduct of general beach erosion development studies as authorized and directed by existing law. The amount requested, along with the anticipated reimbursable project workload, will permit continuation of the research program of the Beach Erosion Board on a normal basis consistent with personnel, laboratory, and contractor capabilities, and progress norms established through prior years of operation. The studies deal with physical phenomena, techniques, basic principles, and remedial or control measures related to shore protection and improvement. They provide general criteria which may be applied to the sound and economic solution of shore-erosion problems at specific localities. Results of these studies are published and disseminated to other Federal, State, and local agencies and individuals having need for this information. The Beach Erosion Board is the only agency in the United States devoting significant and continuing effort to the development of more effective and economic methods of shore protection and improvement.

Erosion damage on the coasts of the United States is widespread and huge sums have been expended by local interests for protective measures, a large proportion of which have been ineffective or even detrimental. Existing technical knowledge of shore processes is inadequate, resulting in many past instances in construction of uneconomic remedies. The development and research program of the Beach Erosion Board is systematically bridging these gaps in knowledge. This $210,000 program is necessary to support the research activity at a level consistent with the overall scope of the needs of shore-erosion control and to make effective use of Board-testing equipment, including the very large wave-test facility which has recently been put into operation at the Board's laboratory.

(*b*) *Hydrologic studies*

General.—The hydrologic studies included under this item are essential basic activities which provide a background of information and experience which is subsequently drawn upon in the optimum design, construction, and operation of water-control structures. These basic studies are conducted by field offices of the Corps of Engineers and are included in this item only because they are not clearly chargeable to authorized projects or reports. A discussion of each of the studies is presented below:

(1) *Storm studies.*—An investigation of major storms is conducted by the Corps of Engineers for the purpose of accumulating comprehensive data for the most important past and current storms. Basic precipitation data from all sources are compiled and analyzed to determine critical depth-area-duration relationships for the storms as they actually occurred. These data are necessary to the evaluation of flood-producing potentialities of river basins as related to the proper planning, design, and operation of water-control structures.

(2) *General hydrologic studies.*—These studies are essential to the development of criteria on which to base the design and operation of flood-control projects. The criteria derived from these studies are required in determining economic justifications, capacity of flood-control works, required provisions for security against failure of the project during extreme flood emergencies, proper design for optimum performance, economy of construction and proper operating procedures after completion of construction. The studies include analysis of the relations between rainfall and resulting runoff, snow studies, flood forecasting, analysis of past floods, infiltration indexes, unit hydrographs, development of flood hydrographs, and other studies of related hydrologic nature.

(3) *Sedimentation studies.*—These studies, such as the collection of suspended and bed-load data, data on degradation, aggradation and delta formations, investigations of sediment transportation characteristics of natural streams, and laboratory studies, are necessary to provide general knowledge and background data on which to base the planning, design, and operation of water-control structures. One of the major efforts under this item is a cooperative interagency investigation of methods used in measurement and analysis of sediment loads in streams. This project is conducted at the St. Anthony Falls Hydraulic Laboratory and is sponsored by the Subcommittee on Sedimentation, Interagency Committee on Water Resources.

(4) *Corps of Engineers streamflow and rainfall data.*—In addition to the cooperative items (2 (*a*) and 2 (*b*)) above, the Corps of Engineers independently operates certain stream gaging and rainfall stations that are not included in the programs carried on in cooperation with the Geological Survey and the Weather Bureau. Those noncooperative general-coverage stations, which are not assignable to any specific project or report, are usually required in connection with some special study or purpose. Due to the special nature of the stations and the fact that they are operated for a limited time only, their inclusion in the cooperative program is impracticable.

(5) *International water studies.*—The United States is obligated by international agreement to actively participate in a number of control boards to allocate and control international streams and watersheds which mutually affect the United States and the bordering nations. Members of the Corps of Engineers are appointed to represent the United States on the following International Boards of control: Niagara, St. Lawrence, Massena, Lake Superior, Lake Champlain, Prairie Portage, Lake of the Woods, St. Croix River, Kootenay Lake, Osoyoos Lake, and the Columbia River Engineering Committee. Funds are required to finance the Corps of Engineers' share of participation on these International Boards.

The amount of $150,000 is needed during fiscal year 1958 in order that the field offices of the Corps of Engineers may carry out the essential and basic activities described above.

(*c*) *Civil-works investigations*

The amount of $1,335,000 is requested for fiscal year 1958 to continue engineering investigations designed to assist in the solution of unsolved or incompletely solved problems associated with design, construction, and operation and maintenance of civil-works projects. The investigations are grouped into the six broad engineering fields indicated below for which funds are needed in the amount shown in the following table:

Field:	*Amount required for fiscal year 1958*
Structural	$133,500
Hydrology	122,000
Electrical and mechanical	55,000
Soils and geology	88,000
Concrete	336,000
Hydraulics	463,000
Total	1,197,500

The remaining $137,500 is needed for operation of the research center at the waterways experiment station ($100,000), coordination of the civil works investigations program by waterways experiment station ($7,500), and for initiation of general studies of the application of high speed electronic computers (electronic data processing systems) to the solution of engineering problems ($30,000).

In the fiscal year 1958, the funds will be applied to 79 individual investigations divided among the 6 fields of engineering as follows:

Field:	*Number of investigations*
Structural	9
Hydrology	11
Electrical and mechanical	2
Soils and geology	8
Concrete	8
Hydraulics	41
Total	79

These investigations relate to engineering problems which are encountered over a wide segment of the area of the civil functions work performed by the Corps of Engineers. The solutions are widely applicable to design, construction and operation of civil works projects.

In the structural category, investigations to be conducted cover studies of the behavior of structures, and structural components for the purpose of checking design criteria, verification of structural integrity and as a means for improving design methods. Investigation of behavior and durability of prestressed concrete members is also included. Investigations in this field also include studies of reservoir clearing procedures to check the effectiveness of large scale economies

effected in recently cleared reservoirs. Investigations of paints and protective coatings for application to hydraulic structures are also included.

In the field of hydrology, investigations include: studies of hydrologic data and methods of evaluating and utilizing hydrologic data to effect improvements in planning and design of flood control reservoirs; development of and improvement of hydrologic equipment; and investigation of the application of high speed electronic computers to the problems of flood predictions and reservoir operations. The investigations also include studies of the influence of dry year flows on the operation of dual purpose reservoirs; and studies to develop improved freeboard criteria for use in design of dams and levees.

In the field of soils mechanics and geology, the work will include investigations into the properties and behavior of soils in foundations and in levees and earth dams for the purpose of improving on design methods and criteria; and improvements in methods and materials for grouting of foundations under concrete gravity dams.

In the electrical and mechanical field, investigations are underway on the mitigation of corrosion of metals by the cathodic protection method as applied to hydraulic structures. Also work will be started on development of hopper dredge pumps of improved design to obtain increased efficiency.

In the field of concrete, work will include investigations designed to improve test methods and evaluation procedures for concrete and concrete materials; improve methods of evaluating aggregates normally considered unsuitable for use and development of means by which such aggregates can be safely utilized when aggregates of undeniable quality are not economically available; improve the properties of mass concrete and reduce its cost by the use of portland cement replacements including natural and treated pozzolans, natural cement, slag cement and other suitable materials; evaluate the influence of types of portland cement and properties of portland cement on the quality and characteristics of concrete; and improve construction equipment and procedures for production of concrete to effect improvements in quality and reductions in cost.

In the field of hydraulics, work will include investigation of tidal flows and waves in coastal rivers and inlets for the purpose of improving design criteria and methods of design of harbor channels, breakwaters and harbor works; investigation of the design of spillway crests and piers, control gates, and intakes for flood control conduits and tunnels; investigation of design of navigation locks and lock features including filling and emptying systems and gates; investigations to improve model testing techniques and procedures; and investigation of the application of high speed electronic computers to the solution of hydraulic problems. Work will also be started on the use of radioactive tracers in determination of sources and movement of shoaling materials; and full scale tests of rubble mound breakwaters.

Investigations will be started on the application of high speed electronic computers (electronic data processing systems) to the solution of various engineering problems. These investigations are in addition to and in fields of engineering other than hydrology and hydraulics in which study of specialized applications are already underway as previously indicated.

These investigations are essential to continuation of progress on improvements in design, construction and operation and maintenance of civil works projects. They constitute an engineering tool for reducing construction cost, providing for improved performance and reducing the cost of operation and maintenance of hydraulic features of civil works projects. Appreciable saving in cost of civil works projects have resulted from previous investigations; and safer and more utilitarian structures have also resulted. While much progress has already been made, answers are still needed to many vexing engineering problems.

The Research Center of the Waterways Experiment Station maintains and operates the principal technical library of the Corps of Engineers; conducts literature researches for Corps of Engineers' field installations and WES; maintains a technical literature translation service, and edits, publishes and distributes all technical reports of the Corps of Engineers. The service is widely utilized and is an essential component of the investigative program of the Corps of Engineers.

Coordination of CWI by Waterways Experiment Station consist essentially of providing technical assistance to other field installations to which CWI projects are assigned for prosecution.

(*d*) *Mississippi Basin model*

The amount of $810,000 is requested for fiscal year 1958 to continue construction and adjustment of the Mississippi Basin model at the Jackson suboffice of the Waterways Experiment Station, Vicksburg, Miss.

The completed model will be a reproduction to scale of the Mississippi River and its major tributaries. Figure 1 shows the model and the status of construction.

The model was initiated in 1943 with prisoner-of-war labor on the Federal reservation near Clinton, Miss. A Mississippi Basin Model Board was established by the Secretary of War in 1945 and made responsible for determining policies and programs for subsequent development and operation of the model. The original and primary purpose of the model was to develop plans for coordinated operation of the reservoir system in the Mississippi Basin; this purpose has been expanded to include investigations for planning, design, and coordinated operation of all flood-control works in the basin.

The total cost of construction of the Mississippi Basin model through June 1956 has been $6,730,200. This cost has been prorated to flood-control projects within the area covered by the overall model limits. Thus, the cost of model construction through fiscal year 1956 has been assessed as an engineering expense against flood-control projects under construction at the time throughout the basin. Funds in the amount of $400,000 have been provided for fiscal year 1957 by direct appropriation by Congress. Thus, the total cost of construction of the model through June 1957 will be $7,130,200.

The estimated cost of completing the model in an optimum period of 5 years in accordance with an orderly, systematic work program, is $8,300,000. Therefore the total cost will be about $15,400,000.

Coordination of the operation of flood-control works throughout the Mississippi Basin is becoming more complex each year as the completion of individual flood-control projects expands the overall system. Within the area there are, existing, authorized, or proposed, approximately 200 reservoirs, several thousand miles of levees, and many other flood-control structures. Those completed and under construction to date represent an investment of more than $5.4 billion. In addition, projects exceeding $3.2 billion have been authorized. The design and operation of this vast and intricate system must be closely coordinated and controlled if maximum local and basinwide benefits are to be realized.

Flood routing on simple streams can be accomplished very satisfactorily by analytical methods; however, the problem becomes quite complicated when applied to a river system of the size and complexity of the Mississippi Basin. The model will assist in obtaining reliable answers to many problems not readily susceptible of solution by analytical procedures.

The time required to analyze the probable combinations and to determine all the important effects of timing, storage, and discharge throughout the basin would be prohibitive if such investigations were confined solely to mathematical procedures. However, because of the ease with which variables can be introduced in the model, once a basic setup has been made, a large number of conditions can be tested in a relatively short time. Effects at all points throughout the whole length of the river valleys can be easily seen and directly measured, whereas effects can be obtained only at key points in computational procedures. The use of the model will permit all phases of a problem to be carefully explored and thus produce a more extensive and authentic solution or answer. For example, the model was used to aid in flood fighting activities during the April 1952 flood on the Missouri River. Its use aided materially in delineating the flooded areas, locating critical points on levees, and assisting in timing of the evacuation of areas that were later flooded. The information thus furnished from the model was a major factor in preventing more than $65 million of damages.

For these reasons, it is considered that the Mississippi Basin model is a necessary tool for the development and refinement of plans for the construction and coordinated operation of flood-control works on a basinwide scale. The element of time for completion of this project is of importance, as the major basinwide benefit to be derived from the model cannot be realized until the overall model has been completed.

COORDINATION BETWEEN THE CORPS OF ENGINEERS AND THE BUREAU OF RECLAMATION

Mr. RABAUT. What coordination has there been between the Corps of Engineers and the Bureau of Reclamation on studies to improve the design and construction of water-control structures?

Colonel REIFF. Sir, we have what I believe to be very good informal coordination between the Bureau's research program and our own.

It is not on a formal basis. However, the Bureau of Reclamation people are familiar with all of the studies that we are making in this area, and we are familiar with those that they are making.

At the end of the year, our waterways experiment station publishes a summary of the progress that has been made by the corps in this field, and the summary is distributed not only to the Bureau of Reclamation but to the other agencies which might have an interest in these specific projects.

Mr. RABAUT. What is hoped to be accomplished by these studies? By that, I mean will they serve to bring about better construction or relationships to other activities such as fish and wildlife and such other improvement in construction which will lend itself to the major construction of dams?

Colonel REIFF. Yes, sir. The program is really in three parts: Our beach-erosion item, the hydraulic studies, and the civil-works investigations. The beach-erosion studies, of course, are conducted by the Beach Erosion Board, which is the largest and really the only agency of its kind doing this kind of research on beach problems.

Mr. RABAUT. I believe you have a model in connection with this work located in Virginia, do you not?

Colonel REIFF. It is located out near the Dalecarlia Reservoir—our Beach Erosion Board—and the large wave tank is the principal item.

Mr. RABAUT. I went out there and looked at it once.

Colonel REIFF. It is a very valuable piece of equipment which is just now coming into full use. It was just dedicated about a year ago, and we have obtained some very fine results from it during the last year, and hope to continue in the years to come.

Mr. RABAUT. It might be well for the members of the committee to go out and have a look at it.

Colonel REIFF. We would be delighted to have you, sir.

RESEARCH RESULTS DURING THE PAST YEAR

Mr. RABAUT. Please summarize some of the research results which you have obtained during the past year.

Colonel REIFF. In our "Civil-works investigations" program during the year we have continued our studies on 74 different items in the 6 major fields. One item which might be of interest to the committee, which was completed during the year, was a study of the shapes of inlets for conduits through dams.

We have found by experience that the high-velocity water going through these conduits in the reservoirs causes in some cases a serious cavitation, or pitting, in the steel or concrete.

We have also found through experimentation that, by varying the shape of this inlet, we can minimize and in some cases entirely eliminate this damage to the structure. Of course, since these structures are generally from 100 to 200 feet under water the repair of them is a very costly thing.

Mr. RABAUT. In other words, such repair would necessitate the construction of a cofferdam in most instances, would it not?

Colonel REIFF. It would have to be done under some kind of cofferdam conditions. As a result of these experiments, we have developed a set of hydraulically efficient entrance shapes for different

sized structure, and we expect to use this information in all of our future designs.

INCREASE FOR CIVIL-WORKS INVESTIGATIONS

Mr. RABAUT. Colonel Reiff, suppose you explain the need for the increase of $125,000 for "Civil-works investigations" over the present base of $1,285,000.

Colonel REIFF. The $125,000 you have reference to, sir, I believe is made up of $85,000 increase in the appropriation and a $40,000 carryover. Of this amount, approximately $50,000 will be required for the contribution to the retirement fund that I mentioned previously.

In this area we are always confronted with numerous unsolved problems that require additional expenditures to keep up with our design program. Normally, we do not institute one of these investigations unless there is no one else to our knowledge that is doing investigative or research work in that area.

During 1958 we expect to have 79 of these studies going, compared to the 74 we had going this year.

We expect to put special effort on dredge pumping equipment and on the use, and methods potentially possible in the use, of electronic data-processing equipment.

Mr. RABAUT. I notice you have a number of investigations planned. I believe that number is 79, is it not?

Colonel REIFF. Yes, sir.

Mr. RABAUT. There are 9 in the structural field and under hydrology 11. Under mechanical there are 2, geology 8, concrete 8, and hydraulics 41. I believe you have already told us something about the structural projects, have you not?

Colonel REIFF. Yes, sir.

Mr. RABAUT. What conclusions did you reach as a result of your concrete investigation?

Colonel REIFF. Well, I can cite one of them that has been concluded in the last year which is concerned with what allowable tensile strength we should permit in the design of reinforced concrete structures for the corps' program. Our program, of course, generally is subject to a much greater exposure factor than normal building construction would be. Accordingly, we have been a little careful about accepting increased unit strength for reinforcing, and during the last year or so we have conducted some experiments at our Treet Island, Maine, laboratory, where the problem was to stress reinforced concrete beams to see if the extreme exposures available there would affect the strength of the reinforcing.

We have concluded that we can go from 18,000 pounds per square inch to 20,000 pounds per square inch in that unit stress. This probably will result in a savings of something like 6.5 percent of the volume and cost of reinforcing in our concrete construction.

Mr. RABAUT. Today in concrete construction there is a great deal of automatic mixing of concrete.

I suppose that improves the mixture to a considerable extent; does it not? I would think that the proper proportion of mixture is much better than it was years ago when it was done by hand.

Colonel REIFF. I suspect, sir, you are talking about automatic batching, where the concrete ingredients are each accurately measured

and recorded automatically during the mixing process. This has been adopted for all the corps' projects that have any appreciable amount of concrete in them.

Mr. RABAUT. It prevents erosion and also prevents trickery in its formation; does it not?

Colonel REIFF. It also provides a record.

Mr. RABAUT. That is a very valuable thing, of course, in construction.

Colonel REIFF. It certainly is.

Mr. RABAUT. I saw such an experiment in Louisiana one time.

SOILS AND GEOLOGY RESEARCH

Mr. RABAUT. When you are talking about soils and geology how much of a field does that cover? It is pretty broad, is it not?

Colonel REIFF. Yes, sir. These are all rather broad fields.

Mr. RABAUT. I noticed in that field you are making eight studies.

Colonel REIFF. I am sure that the chairman is familiar with the bore-hole camera that was developed in the corps in the last few years.

Mr. RABAUT. Suppose you enlighten the committee on it.

Colonel REIFF. Well, the bore-hole camera is a piece of equipment that was developed by the corps for dropping down into a core drill that had been made in the ground and taking continuous pictures as it goes down. In other words, you could make a small hole and take these pictures of it, and get the same kind of information as if you had dug a large one that a man could actually go down in and look at this. It created quite a sensation throughout the photographic, as well as the engineering, world and has been the subject of a lot of favorable comment recently.

Mr. RABAUT. It has been helpful?

Colonel REIFF. It has been most helpful. Again, this provides not only the information you need today in the design, but a permanent record of what it was in concise, easy-to-understand form.

ELECTRICAL AND MECHANICAL INVESTIGATIONS

Mr. RABAUT. Do you have anything new in these electrical and mechanical investigations which you are making?

Colonel REIFF. One of the things that has been most interesting to me, sir, has been some work that we have been doing in the field of corrosion abatement. It is electrical in that the device we have been working with has been cathodic protection. This means the introduction of a very small electric current into a metal structure to counteract the stray electric currents that are present in the water or surrounding ground that causes expedited corrosion in metal products. It has been used quite a bit in the oil industry for buried pipelines.

Mr. RABAUT. Can that be used in a building which has already been constructed?

Colonel REIFF. Of course, it is much better if it is designed into it in the first place. Its particular application to our work is primarily in our gates on dams or the miter gates in the locks, where the painting problem is expensive, and that is the only way you have to protect them. By installing this cathodic protection we practically eliminate, or at least delay, the repainting problem. We think on a single set

of gates in a lock we save as much as $2,500 a year just because we do not have to repaint them so often.

CONTINUED CONSTRUCTION OF THE MISSISSIPPI BASIN MODEL

Mr. RABAUT. What is planned with the $810,000 requested to continue construction of the Mississippi Basin model? I thought you were through studying the Old Man River over there.

Colonel REIFF. I do not know, sir, whether we will ever be through studying the Mississippi River.

The $810,000 we are requesting for 1958 for the Mississippi Basin model will be used to complete the model from just below Cairo where it is now completed down to as far as Memphis.

As you probably recall, pretty much of the project above Cairo and below Louisville on the Ohio and in the Missouri Basin has been completed. This brings the model to below where the Ohio, the upper Mississippi and the Missouri come together.

Now, this fund will let us extend the model downstream to Memphis.

Mr. RABAUT. This concludes the questions that I have on "General investigations."

Are there any questions on general investigations?

Mr. FENTON. Mr. Chairman, I have a few questions which I would like to ask at this time.

Mr. RABAUT. You may proceed.

COMPREHENSIVE STUDY OF DELAWARE BASIN

Mr. FENTON. Colonel, you mentioned something about a comprehensive study of the Delaware.

Colonel REIFF. Yes, sir.

Mr. FENTON. What have you done on that?

Colonel REIFF. Well, my reference, sir, was to the coordination that we have achieved with the Soil Conservation Service in getting their part of the study going in parallel with our own. As you know, sir, it is a large, comprehensive study that involves not only ourselves, the Department of Agriculture, the Fish and Wildlife Service, but a lot of other agencies.

The point I was trying to make was that we had reached an agreement with them and we are providing them with the money necessary for them to study the small dam potentiality in the Delaware Basin.

Mr. FENTON. Who functions directly with the Department of Agriculture people? Is that your district engineers?

Colonel REIFF. Yes, sir; the coordination would be with our district engineers, and I believe the Department of Agriculture Soil Conservation Service office. I am sorry, sir, but I do not know. However, I would be glad to find out for you.

Mr. FENTON. However, it is a coordinated effort by several agencies of the Federal Government?

Colonel REIFF. Yes, sir.

Mr. FENTON. I was just curious to know what you had in mind when you mentioned that.

Colonel REIFF. Yes, sir.

MISSISSIPPI BASIN MODEL

Mr. FENTON. What is this water research and development laboratory that you spoke of a few minutes ago?

Colonel REIFF. That is the Mississippi Basin model.

Mr. FENTON. Is there any particular spot in that basin where you have a particular laboratory?

Colonel REIFF. The model itself is at Clinton, Miss. It was started there some 15 years ago with prisoner-of-war labor. It is actually part of the Waterways Experiment Station which is located at Vicksburg. The rest of our Waterways Experiment Station research facilities are located at Vicksburg except for this model, which was built at Clinton, because the land was available there.

Mr. FENTON. I listened with considerable interest to your description of some of your work in research. For example, you mentioned the research work you are doing on concrete conduits, and so on.

Colonel REIFF. Yes, sir.

NATURE OF COOPERATION WITH BUREAU OF RECLAMATION

Mr. FENTON. Is that research work done in cooperation with the Bureau of Reclamation?

Colonel REIFF. Actually, sir, it is not done as a cooperative venture.

Mr. FENTON. What I want to know is whether or not there is any duplication of effort.

Colonel REIFF. I do not feel that there is any duplication of effort here, sir.

As you undoubtedly know, the people in the engineering field who are interested in research are almost, without exception, members of national engineering associations and through their regular meetings they maintain familiarity among themselves with what is going on. As I pointed out initially, we do not start one of these civil works investigation projects if anyone else is working in the same field. We maintain an engineering library at the Waterways Experiment Station. One of their principal jobs is to keep track of what other agencies are doing in this field. We have close coordination not only with the Bureau of Reclamation but with the Portland Cement Institute, the American Concrete Institute, and the Bureau of Standards, as well as all the other agencies who are interested in the same fields that we are.

Then, as I pointed out, we furnish to the Bureau each year a summary of the work that has been completed and what progress we have made on the studies on which we are working.

Mr. FENTON. I have been out to the research center in Denver of the Bureau of Reclamation. It is a very fine operation.

Colonel REIFF. That is a beautiful setup.

Mr. FENTON. I just wondered whether or not there was any duplication or whether there was a coordination of effort.

Colonel REIFF. I think we have a pretty well informally coordinated program although, as I mentioned before, there is no formal coordination.

Mr. FENTON. Does the development of taking photographs of bore holes help in the study of cores or anything like that?

Colonel REIFF. Yes, sir. It is primarily, of course, for subsurface exploration where we are going to build a dam or levee or some other

structure to find out what the substructure is made up of—whether it has a good foundation or whether it has a poor foundation. It is used primarily in our investigations prior to establishing a criteria for the design of the structure.

Mr. FENTON. You still depend upon the core, however, do you not?

Colonel REIFF. Yes, sir. We still take cores and in some subsurfaces it is almost impossible to get a core at all, if it is not solid material, and in this way one can get a quick answer on the material.

Mr. FENTON. Thank you.

CONSTRUCTION, GENERAL, CORPS OF ENGINEERS

PLANNING STUDIES FOR NAVIGATION PROJECTS

Mr. RABAUT. If there are no further questions on "General investigations," we will now take up the item of "Construction, general."

I note $50,000 is requested for planning studies for navigation projects.

We will insert into the record at this point page 18 of the justifications.

(The page follows:)

1. ADVANCE ENGINEERING AND DESIGN

Planning studies for navigation projects

Funds in the amount of $50,000 are requested to accomplish preconstruction planning studies for a small number of authorized navigation projects for which construction appropriations are expected at an early date. The projects to be studied are of the less complex type but for which no studies have been made since the time of the report on which authorization was based. The studies to be made generally will consist only of investigating the types and quantities of materials to be dredged and making an up-to-date determination of the economic soundness of the authorized improvement.

This procedure will enable the corps to present to the Congress firmer cost estimates and a current evaluation of the benefits to be realized from construction of the projects. It also will ready the projects for earlier initiation when construction appropriations are made available.

Mr. RABAUT. I believe this is a new item. Please explain the purpose of this request.

Colonel REIFF. Yes, sir, Mr. Chairman, this is a new item. It is in the budget with the thought that if we had a nominal amount of funds to investigate simple navigation projects that appear to be coming up or ready for construction in the near future—authorized projects where the survey report was made some years ago—if we had a few dollars available to go in there and make a quick, up-to-date appraisal of the physical conditions and the economic conditions to indicate changes which have occurred since the survey report was submitted, we would be able when we asked for construction funds to give the committees of Congress an up-to-date statement on both the physical conditions and the economic conditions. This would make our reports, we feel, much more valuable to you.

Mr. RABAUT. And, probably more accurate?

Colonel REIFF. Undoubtedly more accurate.

Mr. RABAUT. This is not a large sum of money, but is this a question of getting the camel's nose under the tent on this advance engineering and design and planning facilities?

Colonel REIFF. No, sir; we do not anticipate that this is ever going to be a major item. It is only for navigation projects, incidentally.

Mr. RABAUT. It is only for navigational projects?

Colonel REIFF. Yes, sir. It is only for those few, simple navigation projects that we might be giving consideration for recommending for construction in the next year where we could go in and make a quick economic and physical condition survey.

Mr. RABAUT. You think this money would be well spent and that it would be a proper appropriation?

Colonel REIFF. I certainly do, sir.

LOCAL PROTECTION PROJECTS NOT REQUIRING SPECIFIC LEGISLATION

Mr. RABAUT. There is $3 million which is requested for local protection projects not requiring specific legislation. There is $400,000 for emergency bank protection and $600,000 for snagging and clearing.

Wi will put pages 19 through 21 of the justifications into the record at this point.

(The pages follow:)

CONSTRUCTION, GENERAL, FISCAL YEAR 1958

5. FLOOD CONTROL PROJECTS

(a) *Local protection*

(II) *Projects not requiring specific legislation.*—Section 205 of the Flood Control Act of 1948, as amended by section 212 of the Flood Control Act of 1950, and as further amended by Public Law 685 of the 84th Congress, 2d session, provides for the allotment of not more than $10 million annually for construction of small flood control projects at locations where such construction has not been specifically authorized by Congress, and where the Federal allocation will not exceed $400,000 at any single locality from the appropriations for any 1 fiscal year. The projects are to be selected and approved for construction by the Chief of Engineers upon determination of their feasibility and economic justification and are to be complete within themselves. Projects constructed under this authority are subject to the normal requirements of local cooperation as prescribed by section 3 of the Flood Control Act of 1936, as amended, for regularly authorized projects.

Funds in the amount of $3 million are required in fiscal year 1958 for the construction of feasible and economically justified small flood control projects at locations throughout the Nation, where the need for protection from flooding is so urgent that the delay involved in submitting formal survey reports to Congress would seriously jeopardize the social security and economic stability of the area to be protected, and in some cases the flood threat to the lives of the residents of the area would be unnecessarily prolonged.

At the present time there are a considerable number of studies under way on projects that fall within this category. This flood control legislation is now well known and understood by local interests, and, as a result, requests for remedial work under this authority are far exceeding (in total estimated costs) the annual appropriations for this work. Also, the recently increased project cost limitation now makes it necessary and possible to consider many flood problem areas that heretofore were ineligible for the provision of remedial works under the former cost limitation of $150,000 per project.

(III) *Emergency bank protection.*—Section 14 of the Flood Control Act of 1946 provides for an allotment not to exceed $1 million annually for the construction of emergency bank protection works to prevent flood damage to highways, bridge approaches, and public works, when in the opinion of the Chief of Engineers such work is advisable. The work under this authority is limited to a cost of not more than $50,000 at any single locality in any one fiscal year.

Funds in the amount of $400,000 are requested in the fiscal year 1958 to continue the program of emergency bank protection construction at selected locations throughout the Nation where the threat of flood damages to highways, bridge approaches, and public works is serious.

It is considered that the amount requested is the minimum necessary to allow work to be performed in fiscal year 1958 at critical locations. This work will prevent flood damage to bridges and highway facilities representing large invest-

ments of Federal, State, or local funds, and will permit the maintenance of adequate transportation facilities serving the needs of commerce and agricultural production. In other cases, the funds requested will be used to protect public works, such as municipal water supply systems and sewage disposal plants.

(IV) *Snagging and clearing.*—Section 2 of the Flood Control Act of 1937, as amended by section 208 of the Flood Control Act of 1954, provides for an allotment not to exceed $2 million annually for removing accumulated snags and other debris, and clearing and straightening of the channels in navigable streams and tributaries thereof, in the interest of flood control, provided further that not more than $100,000 shall be expended for this purpose for any single tributary from the appropriations for any one fiscal year.

Funds in the amount of $600,090 are requested in the fiscal year 1958 to continue the program of snagging and channel clearing in streams throughout the United States where such work is necessary in the interest of flood control and where the need is most urgent. The proposed work to be accomplished with the allocations for fiscal year 1958 will provide flood damage relief for areas where accumulated snags and debris and meandering stream channels cause overbank flows even during minor storms. In addition, drainage will be improved in farming areas, thus permitting increased agricultural production, and in certain localities incidental benefits will be derived through pollution abatement. Work of this scope can be accomplished in a short period of time, thus providing an immediate return on the Federal investment by providing prompt reduction in flood damages.

Mr. RABAUT. I note that the total amount for these 3 items is a reduction of about $580,000 from the funds available this year. How do you account for this reduction?

Colonel REIFF. Sir, I believe——

Mr. RABAUT. Do you have a large carryover?

Colonel REIFF. I believe that the reduction is the result of us not anticipating as large a carryover from 1957 to 1958 as we had from 1956 to 1957. Actually, the appropriation we are requesting is substantially the same as we got in 1957.

UNOBLIGATED FUNDS

Mr. RABAUT. What do you have unobligated as of some date that you have of record recently?

Colonel REIFF. I am afraid, Mr. Chairman, I will have to furnish that information for the record, sir. I do not believe I have it with me.

Mr. RABAUT. That is information which should be brought along, because that question is very often asked.

Colonel REIFF. Yes, sir.

(The information follows:)

Special continuing authorities, unobligated balances as of Mar. 31, 1957

Authority	*Unobligated balance*
1. Projects not requiring specific legislation (Public Law 685, 84th Cong.)	[1] $3, 424, 170
2. Snagging and clearing (sec. 208, 1954 Flood Control Act)	[2] 576, 200
3. Emergency bank protection (sec. 14, 1946 Flood Control Act)	[3] 379, 070

[1] Construction contracts on 15 Public Law 685 projects are scheduled for award during May and June 1957. Estimated Federal cost of proposed work amounts to $2,200,600.

[2] Construction contracts on 8 snagging and clearing projects are scheduled for award during May and June 1957. Estimated Federal cost of proposed work amounts to $460,500.

[3] 3 emergency bank-protection projects are scheduled for construction during May and June 1957. Total estimated Federal cost of proposed work amounts to $105,500.

TENTATIVE PROJECT BREAKDOWN

Mr. RABAUT. Please provide for the record a tentative project breakdown of these three items for 1958.

Colonel REIFF. All right, sir.

Mr. RABAUT. That is, the ones I just referred to.

Colonel REIFF. Yes, sir.

(The breakdown follows:)

STATUS OF SMALL FLOOD CONTROL PROJECTS

(Not requiring specific legislation)

PUBLIC LAW 685, 84TH CONGRESS (AS OF MAY 6, 1957)

1. To date, 18 small flood-control projects have been approved for construction, and construction funds in the amount of $2,525,800 have been allotted from fiscal year 1957 appropriations.

2. Two projects have been approved for initiation of construction in fiscal year 1958; as follows:

Project location	*Estimated Federal cost*
1. West Branch, Naugatuck River, Torrington, Conn	$400,000
2. Levisa Fork River, Prestonsburg, Ky	300,000
Total	700,000

3. Project design memorandums have been submitted on three problem areas. These memorandums are under review in the Office of the Chief of Engineers at the present time. When these reviews have been completed, provided the proposed projects are found to be economically justified and feasible from an engineering standpoint, the projects will be approved for construction during fiscal year 1958. The total estimated Federal cost of the 3 projects is $635,000.

Project location	*Estimated Federal cost*
1. Ware River, Ware, Mass	$400,000
2. Red Dale Gulch, Rapid City, S. Dak	142,000
3. Buffalo Creek, Scranton, N. Dak	93,000
Total	635,000

4. Project design memorandums are nearing completion on eight project locations. These memorandums are scheduled to be forwarded to the Office of the Chief of Engineers by June 30, 1957, for review and appropriate action. The total estimated Federal cost of the projects under study amounts to $2,450,000.

Project location	*Estimated Federal cost*
1. Rheem Creek, San Pablo, Calif	$350,000
2. Zintel Canyon, Kennewick, Wash	250,000
3. Salmon Creek, Oakridge, Oreg	250,000
4. Mississippi River, Guttenberg, Iowa	340,000
5. Four Mile Creek, El Reno, Okla	250,000
6. Box Elder Creek, Plentywood, Mont	350,000
7. Jewell Brook, Ludlow, Vt	300,000
8. Kansas-Bostwick, Republican River, Kans	400,000
Total	2,450,000

5. Problem areas under study and on which project design memorandums are being prepared at this time, are as follows:

Project and location	*Estimated Federal cost*
1. Radio City Creek, Tazwell Co., Ill	$135, 000
2. Neversink River, Goddeffroy, N. Y	360, 000
3. Missisquoi River, Richford, Vt	115, 000
4. Tygarts Creek, Olive Hill, Ky	400, 000
5. Norwalk River, Norwalk, Conn	200, 000
6. North Nashua River, Fitchburg, Mass	375, 000
7. Naugatuck River, Waterbury, Conn	200, 000
8. Androscoggin River, Gorham, N. H	150, 000
9. Quaboag River, West Brookfield, Mass	50, 000
10. Chicopee and Quaboag Rivers, Palmer, Mass	150, 000
11. East Branch, Neponset River, Canton, Mass	300, 000
12. Willamantic River, Stafford Springs, Conn	150, 000
13. Farmington River, Riverton, Conn	250, 000
14. French River, Rochdale, Leicester and Oxford, Mass	150, 000
15. Sand and City Creeks, San Bernadino, Calif	400, 000
16. Core Creek, Neuse River, N. C	275, 000
17. Robinson Run and North Branch Creek, Oakdale, Pa	210, 000
18. Big Wood River, Blaine County, Idaho	200, 000
19. Dump Creek, Salmon River, North Fork, Idaho	150, 000
20. Lawyers Creek, Kamiah, Idaho	150, 000
21. Naugatuck River, Beacon Falls, Conn	100, 000
22. Cherry Valley Run, Leetonia, Ohio	100, 000
23. Willow Brook, New Britain, Conn	300, 000
24. Red River, Warrens Bend, Cooke County, Tex	90, 000
25. Quinnipac River, North Haven, Conn	250, 000
26. Bull Creek, Tarrentum, Pa	90, 000
27. Calispell Creek, Pend Oreille River, Wash	400, 000
28. Steel Brook, Waterbury and Watertown, Conn	300, 000
29. West Branch, Westfield River, Huntington, Mass	200, 000
30. North Fork, Forked Deer River, Dyersburg, Tenn	200, 000
31. Cocheco River, Farmington, N. H	55, 000
Total	6, 145, 000

STATUS OF SNAGGING AND CLEARING PROGRAM (SEC. 208 OF THE 1954 FLOOD CONTROL ACT) (AS OF MAY 6, 1957)

1. A total of 17 snagging and clearing projects have been approved for construction with funds made available from fiscal year 1957 appropriations, supplemented with surplus funds that were revoked from completed projects. The total estimated Federal cost of the 17 projects amounts to $751,700.

2. Present backlog list (projects that have been approved to date; subject to the future availability of funds):

Project-location	*Estimated Federal cost*
1. Obion River drainage canal, Obion, Tenn	$60, 000
2. Carmel River, Monterey County, Calif	100, 000
3. Silver Creek, Kaskaskia River, Ill	50, 000
4. Minnesota River, Carver, Minn	15, 000
5. Soldier Creek, Fairfield, Idaho	28, 000
6. North Branch, Park River, Hoople, N. Dak	36, 000
7. Fishing Creek, Jacksonburg, W. Va	46, 000
8. Grande Ronde River, vicinity La Grande, Oreg	11, 000
9. Opossum Bayou, Miss	90, 000
10. Pembina River, N. Dak	24, 000
11. Elk Creek, Nutter Fort and Stonewood, W. Va	50, 000
Total backlog	[1] 510, 000

[1] In additon to the above backlogged projects there are 3 proposed snagging and clearing projects presently under study. The total Federal cost of these projects amounts to $135,000, which, if added to the present backlog total will increase that total to $645,000.

STATUS OF EMERGENCY BANK PROTECTION PROGRAM (SEC. 14 OF THE 1956 FLOOD CONTROL ACT) (AS OF MAY 6, 1957)

1. A total of seven emergency bank protection projects have been approved for construction with funds from fiscal year 1957 appropriations. The total estimated Federal cost of the approved work amounts to $260,300.

2. There is no backlog of emergency bank protection projects at this time. The funds requested are for an emergency type of work that is usually performed after floods have occurred and, therefore, cannot usually be programed in advance. However, past experience has been to the effect that the sum of $400,000 (requested for fiscal year 1958) is the average annual amount of funds necessary to cover expenditures for emergency bank protection work.

SMALL AUTHORIZED PROJECTS

Mr. RABAUT. For small authorized projects costing less than $400,000 a total of $3 million is requested, compared with an allocation of $3,610,000 for the current year.

Is this reduction predicated upon a similar condition? Is that a carryover? It represents a cut from $4 million to $3,610,000.

Colonel REIFF. Yes, sir. I think that that is the same condition as the other three, but that represents the carryover.

Mr. RABAUT. Will you please supply the answer for the record?

Colonel REIFF. Yes, sir.

(The information follows:)

The total amount available for obligation at the start of fiscal year 1957 was $4,359,713, of which $1,859,713 was the unobligated carryover from fiscal year 1956 into fiscal year 1957 and $2,500,000 was the new appropriation for fiscal year 1957. Of the total available ($4,359,713) the corps estimated that funds in the amount of $3,609,713 would be obligated in fiscal year 1957.

As of March 31, 1957, there was an unobligated balance of $1,928,628. An estimated $1,200,000 of these funds is scheduled to be utilized for initiation of construction on 9 projects during the fourth quarter of fiscal year 1957 and on 6 approved projects during the early part of fiscal year 1958. A limited amount of the avaialbe funds is being held in reserve for contingencies. Also some $512,000 of the unobligated balance is scheduled to be allocated for 7 additional small authorized projects costing less than $150,000 each which were approved for construction in April 1957. The seven additional projects, together with their estimated Federal construction costs, are listed below:

Sandy Hook Bay at Leonardo, N.J	$94,000
Shoal Harbor and Compton Creek, extension of 8-foot channel, New Jersey	52,000
Waterway connecting Pamlico Sound and Beaufort Harbor, side channel at Sealevel, N. C	23,000
Columbia River between Vancouver and The Dalles, entrance to Oregon Slough, Oreg	103,000
Tillamook Bay and Bar, Garibaldi small-boat basin, Oregon	111,000
Blackfoot Area, Snake River, Idaho	76,000
Shelley Area, Snake River, Idaho	53,000

Mr. RABAUT. We will insert page 22 of the justifications into the record at this point, together with a tentative list of the projects planned in 1958.

Colonel REIFF. That is under the small authorized program?

Mr. RABAUT. Yes.

(The matters referred to follow:)

7. SMALL AUTHORIZED PROJECTS

The work to be accomplished with the $3 million requested for this activity is the construction of a number of navigation, flood-control and shore-protection improvements. These improvements have been specifically authorized by the Congress, and the total estimated cost for each is $400,000 or less. All of the projects to be selected in this category will be economically justified improvements or, in the case of some navigation improvements, will provide for the safety and convenience of waterway traffic as specified in the authorizing legislation. The improvements selected, though requiring a relatively small Federal outlay of funds, nevertheless make an important contribution to the local economies of their areas in providing needed flood and erosion protection or in facilitating the movement of traffic by water. The selection of projects is made by the Secretary of the Army based upon the recommendations of the Chief of Engineers.

Tentative program of small authorized projects costing $400,000 or less, fiscal year 1958 budget

Project	Type [1]	Federal cost	Allotment to date	Appropriation request, fiscal year 1958
Rocky Pass in Keku Strait, Alaska	N	$333,000	0	$333,000
Conway County Levee District No. 1, Arkansas	FC	250,000	0	250,000
Maniece Bayou, Ark	FC	146,000	0	146,000
Kendrick Potlatch River, Idaho	FC	70,000	$8,000	62,000
Cambridge Harbor, Md	N	90,000	0	90,000
Charlotte Harbor, Fla	N	258,000	0	258,000
Gloucester Harbor, Mass	N	205,000	0	205,000
Wellfleet Harbor, Mass	N	303,000	0	303,000
Au Sable Harbor, Mich	N	170,000	10,000	160,000
Waterloo, Nebr	FC	175,000	8,000	167,000
Black Rock Channel and Tonawanda Harbor, N. Y.	N	329,000	10,000	319,000
John Drainage District, Oregon	FC	88,000	7,000	81,000
Kenedy, Tex	FC	202,000	36,000	166,000
Columbia River between Chinook, Wash., and the Head of Sand Island	N	240,000	13,000	227,000
Prairie du Chien Harbor, Wis	N	239,000	14,000	225,000
Total				2,992,000

[1] Type: N=navigation; FC=flood control.

INCREASED LIMITATION ON AUTHORIZED PROJECTS THAT MAY BE SELECTED BY SECRETARY OF ARMY

Mr. RABAUT. Authority is requested to increase the cost of projects in this category which may be selected by the Secretary of the Army from $150,000 to $400,000 in cost.

Please explain the justification for increasing the limitation.

Colonel REIFF. Well, as you recall, sir, last year the limitation on the unauthorized projects was raised from $150,000 to $400,000. This is to bring it in consonance, so that the small authorized projects would have the same limitation as the unauthorized projects.

Mr. RABAUT. Is that the sphere of cost in the unauthorized projects?

Colonel REIFF. Yes, sir.

Mr. RABAUT. Well, it is O. K., then.

Are there any questions?

Mr. EVINS. I would like the colonel to clarify for my information, if not the full committee, the difference between small authorized projects and projects not requiring specific legislation. What groups fall in the latter category? Why not just put $6 million into small authorized projects rather than in two separate categories?

In what areas can you move without legislation?

Colonel REIFF. The category of projects not requiring specific legislation is that group of projects that is covered by Public Law 685.

Mr. EVINS. In other words, general legislation with a maximum limitation on the amount that can be expended?

Colonel REIFF. Yes, sir.

Mr. EVINS. Thank you.

Mr. BOLAND. The real difference, really, is on the basis of an emergency, is it not? Public Law 685 was established for the purpose of taking care of an emergency or small flood-control projects which ought to be undertaken, but which have no specific authorization?

Colonel REIFF. Yes, sir.

Mr. BOLAND. The question I wanted to ask is where do you get your authority to increase the small authorized projects to $400,000?

Colonel REIFF. We are asking for that authority this year, sir.

Mr. BOLAND. Are you asking for it through legislation? Is legislation required? It was required for the small flood-control projects under Public Law 685 when it was increased from $150,000 to $400,000.

Colonel REIFF. We are asking for authority through the budgeting channels for this item, sir.

Mr. BOLAND. Does it require specific legislation? Does it require an amendment to the law? Why would you want it increased to $400,000 on the small authorized projects? What is the maximum now you can spend on these small authorized projects?

Colonel REIFF. $150,000, sir.

Mr. BOLAND. Why do you want it increased to $400,000?

Colonel REIFF. For the same reasons we want the unauthorized, or that it was decided that the unauthorized, should be increased from $150,000. The $150,000 limitation was so restrictive, in view of generally increased costs since it was established, that there were very few projects that were still considered and properly considered as small projects that could qualify with a $150,000 limitation.

Mr. BOLAND. When was the $150,000 ceiling put on the small projects?

Mr. COHEN. About 3 years ago.

Mr. BOLAND. What was it prior to that time?

Mr. COHEN. We did not have any specific language in the appropriation bill before that time. These are all authorized projects.

Mr. BOLAND. That is what I am talking about, the $3 million to be provided for the authorized projects. The $3 million was for the small navigation, shore protection, and flood-control projects. I hope the corps is very careful about that particular item because this is an area in which considerable pressure can be brought upon the corps for particular projects in areas all over the United States.

I hope it is very careful in the expenditure of money on this. The Congress did this for the prime purpose of making sure there were some tools the Corps of Engineers could work with in providing needed flood and erosion protection or in facilitating the movement of traffic by water.

I hope that the corps will adhere to the intent of Congress with respect to this matter. I am sure it is, I hope it will continue to do so. I think this is an area in which, as I indicated, pressure can be brought on the corps by influential Members of either this body or the

body across the way for projects in their areas that would not or should not come under the interpretation Congress puts upon this law.

That is all, Mr. Chairman.

Colonel REIFF. I am sure the Chief of Engineers and the corps recognize the responsibility they have here.

Mr. BOLAND. I am sure you do, but I wanted that in the record because I think it is an area that could be very well abused. I do not indicate you are abusing it because I don't think you are.

Mr. RABAUT. Are there any questions?

Mr. FENTON. In your flood-control projects, do you have any particular project in mind for snagging and clearing?

Colonel REIFF. Yes, sir; we have a number of projects that have been approved up to date and are only awaiting the appropriation of funds to get going. We will be glad to supply you this list for the record. It has been requested, sir.

Mr. FENTON. Thank you.

Mr. RABAUT. Are there any other questions?

OPERATION AND MAINTENANCE, EMERGENCY OPERATIONS, CORPS OF ENGINEERS

We will now take up "Operation and maintenance." We have a total of $4,480,000 requested for emergency operations. We will put pages 23 to 26 in the record.

(The information follows:)

Operation and maintenance, general

6. Emergency operations:	
(*a*) Removing sunken vessels and other obstructions to navigation	$300,000
(*b*) Protecting, clearing, straightening channels of navigable waters, not specifically authorized by Congress (work under sec. 3, River and Harbor Act, Mar. 2, 1945)	30,000
(*c*) Flood-control emergencies	4,000,000
(*d*) Planning emergency restoration:	
(1) Navigation channels and harbor areas	20,000
(2) Census of terminal facilities	130,000
Total emergency operations	4,480,000

JUSTIFICATION OF ESTIMATE

OPERATION AND MAINTENANCE, GENERAL, FISCAL YEAR 1958

6. EMERGENCY OPERATIONS

(*a*) *Removing sunken vessels and other obstructions to navigation*

Obligations for the removal of sunken vessels (wrecks) and other obstructions to navigation during fiscal year 1956 were $359,115. For the fiscal year 1957 there is $410,044 available and it can be expected that the obligations will approximate the 1956 amount. Accordingly, an estimate of $300,000 is included for this emergency activity in the fiscal year 1958.

(*b*) *Protection, clearing, straightening channels of navigable waters, not specifically authorized by Congress (work under sec. 3, River and Harbor Act, March 2, 1945)*

Under this authority the Secretary of the Army is authorized to allot not to exceed $300,000 of appropriations heretofore or hereafter made for any fiscal year for improvement of rivers and harbors, for removing accumulated snags and other debris, and for protecting, clearing, and straightening channels in navigable harbors and streams and tributaries thereof. During the fiscal years 1955 and

1956, there was obligated under this authority $43,588 and $89,718, respectively; and $70,493 is available for obligations for similar emergency work during the fiscal year 1957. The amount requested for this emergency activity for fiscal year 1958 is $30,000.

(c) *Flood-control emergencies*

The budget estimate provides $4 million for emergency flood-control activities pursuant to Public Law 99, 84th Congress. The following flood-control work is undertaken pursuant to that authority whenever and wherever required. flood emergency preparation; flood fighting and rescue operations; and emergency repair and restoration of flood-control works such as levees which are threatened or destroyed by flood. The funds expended for the accomplishment of such emergency work are derived from an emergency fund authorized by Public Law 99 in the amount of $15 million to be replenished on an annual basis. In fiscal year 1956, the emergency fund was replenished by supplemental appropriation in the amount of $15 million, making a total of $23,818,155 available for obligation during the entire fiscal year; as of June 30, 1956, the sum of $9,057,260 remained available for obligation in fiscal year 1957. Of the latter sum, known requirements and scheduled obligations total $7,957,260, leaving only $1,100,000 uncommitted and available for additional requirements in connection with floods during fiscal year 1957. Actual funds requirements for these activities in each of the past several years indicate that replenishment of the emergency fund, in the minimum amount requested, is essential no later than fiscal year 1958.

A schedule pertaining to the emergency fund authorized by Public Law 99 follows:

	Obligations, fiscal year 1956	Obligations (estimated), fiscal year 1957
Columbia Basin	$2,148,496	$3,585,000
Central and South Pacific Basin	1,510,287	408,000
Central Valley Basin	10,247,773	3,325,000
All other basins	854,339	639,260
Subtotal, known requirements	14,760,895	7,957,260
Estimated additional requirements		1,100,000
Grand total	14,760,895	9,057,260

(d) *Planning emergency restoration*

(1) *Navigation channels and harbor areas.*—The Office of Defense Mobilization has indicated the need for damage assessment data on vital facilities subject to damage by enemy attack. The damage that could be inflicted on our major ports by nuclear weapons makes it imperative that more adequate advance planning be undertaken to develop effective and safe procedures and methods for emergency restoration of the Federal project channels and harbor areas, including the removal of wrecked vessels. Such planning has heretofore been conducted only to a limited extent, and now must be revised and expanded to cope with any enemy-caused destruction of major port facilities. An estimate of $20,000 is included for this emergency planning in fiscal year 1958.

(2) *Census of terminal facilities.*—The Director of the Office of Defense Mobilization has requested that the Corps of Engineers, in cooperation with the Maritime Administration and Interstate Commerce Commission, provide the ODM Damage Assessment Center, on a continuing basis, data on ports and waterways essential to the assessment of actual or potential damage resulting from possible enemy attack with nuclear weapons. This reporting program will require initially a census of cargo piers, wharves and docks in the United States sea and Great Lakes ports and of cargo facilities on the inland waterways. The estimated total cost of making the census is $130,000, and the estimated annual cost of maintaining the data current is $20,000. The Office of Defense Mobilization states that the data presently available for damage assessment on port and waterway facilities fall considerably short of the degree of precision and completeness necessary for adequate bomb damage assessment in this field. A complete and accurate damage assessment capability will increase the national capability to cope with the effects of a heavy enemy attack on the United States if it should come. Such a capability will greatly increase the value and significance of test exercises in which it is utilized. For these reasons, the Office of Defense Mobiliza-

tion requests that the necessary data on water terminal facilities be made available as soon as practicable. The budget estimate includes $130,000 for this emergency planning.

PUBLIC LAW 99 EMERGENCY FUND

Mr. RABAUT. Explain the basis for the $4 million requested to replenish the emergency fund authorized by Public Law 99.

Colonel REIFF. As you are aware, sir, Public Law 99 authorizes a fund in amount of $15 million for these flood-control emergencies. The status of our anticipated carryover in this area is such that we believe that $4 million plus what small amount of carryover we may have, provided we do not have too many more emergencies the balance of the year, will take care of our operations next year unless we have a number of large emergencies.

Actually this is less than the average that has been used for this work during the last 5 years, but we have had pretty heavy floods in these last few years and we think maybe we have a year coming up where we can get by with less.

Mr. RABAUT. This is a limit of $15 million on the fund?

Colonel REIFF. Yes.

Mr. RABAUT. In an emergency you have a borrowing power within other funds available to the Department, do you not?

Colonel REIFF. We can use by law any other appropriated funds provided an emergency develops.

Mr. RABAUT. Up to $15 million?

Colonel REIFF. Up to $15 million.

Mr. RABAUT. From other sources? Is there a limit to it? I know the top limit under the law, but what about the borrowing power?

Mr. COHEN. Under the law we can use funds available and have them replenished into the fund later.

Mr. RABAUT. That is our understanding of it.

ODM EMERGENCY PLANNING

An increase of $150,000 is proposed for emergency planning requested for the Office of Defense Mobilization. Is current information adequate for these purposes? Do you need another $150,000 just for defense mobilization?

CENSUS OF TERMINAL FACILITIES

Colonel REIFF. These are really two items under this $150,000. The larger item, $130,000, is for the census of terminal facilities. It is the collection and tabulation of port information which the Office of Defense Mobilization wants to combine with the damage assessment data that they are collecting from other agencies covering all the essential facilities in the United States that might be subject to damage assessment in case of hostile attack.

We have some parts of this information available in our port series. However, our port series, which we collect for the benefit of navigation users, does not come anywhere near covering all the ports that ODM is interested in nor does it have the detail such as cargo-handling capacity, rail and highway connections, and many other things that they feel are essential if they are going to be able to evaluate these

ports in case of enemy attack and make a selection of alternate ports in case some of them are knocked out.

Mr. RABAUT. Mr. Taber and I have been on the committee ever since this Office of Defense Mobilization was born. Every year we have had a great request for money. Who is going to have charge of taking this census?

Colonel REIFF. The Board of Engineers for Rivers and Harbors will actually do the work as far as the Corps is concerned. It amounts to developing, getting approved, and reproducing a questionnaire and sending it out to the private interests generally who own these port facilities, getting them on a voluntary basis to submit the data so it can be put into this system and be evaluated electronically.

Then of course it will mean maintaining it on a current basis. The present estimate is that it will cost $20,000 a year to maintain it.

Mr. RABAUT. Off the record.

(Discussion off the record.)

Mr. RABAUT. We have talked at some length off the record about this subject. Do you have a copy of that questionnaire?

Colonel REIFF. Not with me, sir. We have it made up and it has been submitted to the Bureau of the Budget for comment or approval.

Mr. RABAUT. Let's have one sent here. Please supply to the clerk of the committee, and if necessary we will put it in the record. Without objection, that will be done.

Colonel REIFF. Yes, sir.

Mr. RABAUT. Are there any questions?

EMERGENCY FUND

Mr. EVINS. I have a question, Mr. Chairman. How much is your annual emergency flood control fund on the average?

Colonel REIFF. Is the question how much has been used?

Mr. EVINS. How much has been appropriated to the corps for this purpose on an average over the past several years? How large is your emergency fund?

Colonel REIFF. The average on what we have used in the last 5 years is about $12 million.

Mr. EVINS. You have used $12 million. How much has been appropriated to the corps?

Colonel REIFF. The average is going to be pretty close to that, sir. I do not know that I have that.

Mr. EVINS. How much was appropriated to the corps last year for this emergency flood control program?

Colonel REIFF. $15 million was appropriated last year, sir.

Mr. EVINS. You used $12 million of it. How much was appropriated the year before? Was it about the same amount, $15 million?

Colonel REIFF. In 1955 our expenditures were only $1,500,000. We had enough carryover that year so we did not ask for any appropriation for the item that year.

Mr. EVINS. In other words, you have been getting about 12 to 15 million dollars for this purpose every year.

Colonel REIFF. A yearly average of that amount, either in the regular appropriation or by special appropriation.

Mr. EVINS. Does this item here represent a sweetening of that fund by about $4 million? Can you not get along with your regular fund?

Colonel REIFF. Actually, sir, our estimated carryover in this fund is going to be under a million dollars this year. If you do not appropriate this, we will have something less than a million dollars in this fund for 1958.

Mr. EVINS. That gives us the information we need. I thought you had an additional amount besides this extra amount here.

Colonel REIFF. No, sir.

Mr. EVINS. You said earlier you were being appropriated about $15 million a year.

Colonel REIFF. That is the average that has permitted us to spend the amount we have spent over these years. The $15 million itself is the legal limitation on the fund.

Mr. EVINS. That does not represent another request for similar items for the same use?

Colonel REIFF. No, sir.

Mr. EVINS. Thank you, Mr. Chairman.

DIFFERENCE BETWEEN PUBLIC LAW 99 AND PUBLIC LAW 875

Mr. BOLAND. What kind of work is done with the money that is received under this particular item?

Colonel REIFF. This is our general flood fighting, emergency appropriation.

Mr. BOLAND. Who administers the money that is spent under the disaster relief, Public Law 875?

Colonel REIFF. The Federal Civil Defense Administration.

Mr. BOLAND. Do you not get money out of that? Do they not transfer to the Corps of Engineers money to take care of problems that arise in areas where they have flood emergencies?

Colonel REIFF. They have in a number of cases only on specific cases where they decide that there is work necessary that is authorized under their law that can be accomplished by corps personnel better than through some other means.

Mr. BOLAND. Can money under Public Law 875 be used for the purpose of straightening or clearing a channel? This is new legislation. What session of the 84th Congress was Public Law 99 passed? Was it the first or second?

Colonel REIFF. It was a modification of a previous law. I only have the 84th Congress.

Mr. BOLAND. What is the difference between the relief granted under Public Law 875 and under Public Law 99?

Colonel REIFF. Would you like to have it supplied for the record?

Mr. HELLER. I am F. R. Heller of the Office of the Chief of Engineers. Briefly, the difference is this.

Public Law 99 is limited to flood-fighting operations and repair and restoration of flood-control works, solely flood-control works, damaged or destroyed by flood.

Public Law 875 is authority for the expenditure of funds appropriated for the use of the President for the emergency restoration of public facilities damaged or destroyed by flood or other disaster, for wreckage and debris removal, and for other emergency requirements not authorized under the statutory authorities available to the corps.

Mr. BOLAND. The only work you do under Public Law 99 is repairs to existing flood-control works like levees or dikes or something like that?

Mr. HELLER. That is correct, sir.

Mr. BOLAND. That is all you use this money for?

Mr. HELLER. Yes, sir; along with rescue operations and actual flood-fighting work during a flood.

Mr. BOLAND. Do they not use some of the money out of 875 for rescue operations, too? I would like to get the difference between the two, because there is $15 million under this particular law and there is $10 million under Public Law 875.

Mr. JENSEN. Will you yield there?

Mr. BOLAND. Yes.

Mr. JENSEN. Public Law 99, I believe, was enacted as a result of the terrific floods that occurred after the hurricane along the New England coast, was it not?

Mr. HELLER. Public Law 99 authority was originally provided in 1941 in a slightly different form.

Mr. JENSEN. I realize that, but the law as amended was amended after the New England flood, was it not, caused by the hurricane? Is that not when the law that is now in effect was actually amended to take care of that emergency that existed after that flood?

Mr. HELLER. No, sir; it was actually enacted the fiscal year before the New England flood, in the 84th Congress.

Mr. JENSEN. But you had had a bad hurricane situation a couple of years before that, had you not?

Mr. HELLER. Yes, sir; there had been some before that.

Mr. JENSEN. That prompted the amendment to the previous law. I think you will find that is the fact.

Mr. HELLER. It was the result of previous floods that prompted the amendment.

Mr. JENSEN. That is what I was trying to establish, the fact that you needed the law amended in order to cope with the flood situation that was generally caused by hurricanes on the New England coast. Is that not right?

Mr. HELLER. It was not directly the result of hurricanes, sir, that Public Law 99 was enacted.

Mr. JENSEN. It not only covers the New England coast but covers other areas; I realize that. But, as I remember, when this law was amended, that situation was brought up in debate on the floor. That is all, Mr. Chairman.

Mr. BOLAND. I think the New England or North Atlantic storms occurred in August 1955. This legislation was passed before that time.

Mr. HELLER. That is correct, sir.

Mr. BOLAND. But it is good legislation. All I want to do is try to get clear for the record the assistance that can come to areas, which are visited by disasters, under Public Law 99, the relief that can come under Public Law 99, and the relief that can come under Public Law 875. There seems to be an overlapping. As I say, that is a substantial fund. You get $15 million under 99 and I think it is $10 million under Public Law 875. It is nice to know what the specific relief is that an area can get under those two laws. If you could spell it out for the record, that is all I want. I think it is good legislation.

Colonel REIFF. We will put in the record a concise statement of the area of coverage of the two laws.

Mr. BOLAND. Very well.

(The information referred to follows:)

COMPARISON BETWEEN EMERGENCY FLOOD CONTROL ACTIVITIES UNDER PUBLIC LAW 99 AND FLOOD DISASTER WORK UNDER PUBLIC LAW 875

Public Law 99, 84th Congress, 1st session, approved June 28, 1955, authorizes use by the Chief of Engineers for flood control of "an emergency fund in the amount of $15 million to be expended in flood emergency preparation, in flood fighting and rescue operations, or in the repair or restoration of any flood-control work threatened or destroyed by flood."

Public Law 875, 81st Congress, 2d session, approved September 30, 1950, authorizes the President to determine whether a major disaster has occurred or is threatened, warranting disaster assistance by the Federal Government. The Federal Civil Defense Administrator has been delegated authority to act for the President in providing and coordinating Federal disaster assistance authorized by Public Law 875, the terms of which include the following:

"SEC. 3. In any major disaster, Federal agencies are hereby authorized when directed by the President to provide assistance * * * (d) by performing on public or private lands protective and other work essential for the preservation of life and property, clearing debris and wreckage, making emergency repairs to and temporary replacements of public facilities of local governments damaged or destroyed in such major disaster, and making contributions to States and local governments for purposes stated in subsection (d). The authority conferred by this act, and any funds provided hereunder, shall be supplementary to, and not in substitution for, nor in limitation of, any other authority conferred or funds provided under any other law."

The Corps of Engineers accomplishes justified flood fighting and rescue operations and emergency repairs to flood-control works under its own statutory authority (Public Law 99), without regard to the magnitude or severity of flooding, when requested by the responsible local interests. If warranted, assistance in flood fighting is furnished by Federal military forces under corps supervision. However, military forces and other Federal agencies independently engage in other flood-connected activities, including rescue work, under their own authority and responsibility.

If a flood is of disastrous nature, and Federal disaster assistance is authorized under Public Law 875, participation in such disaster assistance may be requested of the corps by FCDA. The corps' activities under this authority are as directed and authorized by FCDA, and, further, can be only supplemental to the authorities and funds provided by other laws pertaining to the corps. The function of coordinating corps work under Public Law 875 with work under the statutory authorities of the corps, and with the disaster assistance given by other Federal agencies, is exercised by FCDA pursuant to Public Law 875 and Executive Order 10427. Disaster-recovery work which the corps has been requested to accomplish in past flood disasters has been in accordance with subsection (d) of Public Law 875 quoted above. Clearance of debris and wreckage from stream channels has been a major item of Public Law 875 work in several of such flood disasters, as in the Northeastern States (Operation Noah) and in the Far Western States (California and Nevada); also in connection with the hurricane disasters in North Carolina.

Disaster work undertaken by the corps at FCDA request pursuant to Public Law 875 is funded from the President's disaster-relief fund, unless of such magnitude that appropriation is made directly to the corps, as occurred in the case of the flood disaster in 1955 in the Northeastern States, for Operation Noah. Inasmuch as such Public Law 875 work is subject to determination by FCDA in each case, that it is supplementary to work which can be accomplished under the statutory authorities or with funds available to the corps, there is no duplication.

Mr. JENSEN. Mr. Chairman, may I say you now have a flood condition in a part of Texas. Would you have the authority to take money out of this fund to assist in that flood problem?

Colonel REIFF. Yes, sir; for the areas in which it is available for flood fighting and rescue operations, those funds can and will be used if the emergency develops.

Mr. JENSEN. I supposed it would. That is why I wanted it on the record. That pinpoints at least one place where it can be used right now.

Colonel REIFF. It is going on right now.
Mr. JENSEN. Thank you.
Mr. RABAUT. Mr. Magnuson?

27-FOOT CHANNEL, VANCOUVER TO THE DALLES

Mr. MAGNUSON. The Dalles Dam is approaching completion. I am not sure this is the right place to bring this up, but it may be the last chance. There is a lot of concern in the State of Washington about opening up the channel of the Columbia River up to The Dalles. Are you familiar with that situation?

Major GARRETT. I am, sir. That is the 27-foot channel from Vancouver to The Dalles you are referring to, I believe.

Mr. MAGNUSON. Yes.

Major GARRETT. Yes, sir.

Mr. MAGNUSON. There is no money in the budget for that, is there?

Major GARRETT. No, sir.

Mr. MAGNUSON. That stretch of the river once was dredged; is that correct?

Major GARRETT. From Vancouver to Bonneville was dredged to the 27-foot depth in 1949.

Mr. MAGNUSON. What is the condition of that channel now up to Bonneville?

Major GARRETT. It is being maintained to a 15-foot depth, sir, which is sufficient to take care of existing commerce.

Mr. MAGNUSON. You are familiar with the new needs which will exist as a result of industry which will come in at The Dalles, particularly the aluminum plant?

Major GARRETT. Yes, sir.

Mr. MAGNUSON. Do you have authority to dredge that river now without a specific appropriation for that? I take it you do not.

Major GARRETT. The 27-foot channel to The Dalles is authorized. We did dredge it to Bonneville lock and dam to the 27-foot depth in 1949, as I indicated. In our maintenance dredging we have maintained that channel to 15 feet. It is presently in the neighborhood of 15 feet.

There would be a need for new construction funds to accomplish the dredging from Bonneville to The Dalles and a need for additional operation and maintenance funds to accomplish the dredging——

Mr. MAGNUSON. Restore the 27-foot channel to Bonneville?

Major GARRETT. That is right, sir.

Mr. MAGNUSON. How much money would be required to do the dredging from Bonneville to The Dalles to the 27-foot depth?

Major Garrett. Without regard to fiscal policies, we could use $1,100,000 in the next fiscal year to initiate dredging.

Mr. MAGNUSON. What would be the total cost?

Major GARRETT. The total cost, as I recall, sir, is in the vicinity of $2,900,000. That includes $910,000 for the improvement to the lower entrance of the Bonneville ship canal and $1,990,000 for the channel from Bonneville Dam to The Dalles.

Mr. MAGNUSON. Would you do that in 2 years?

Major GARRETT. Two years would be a good schedule.

Mr. MAGNUSON. How much additional operation and maintenance money would you need to restore the channel from Vancouver to Bonneville to 27 feet?

Major GARRETT. We could use $1,250,000 in 1958.

Mr. MAGNUSON. And the total cost would be what?

Major GARRETT. The total cost would be $2,500,000.

Mr. MAGNUSON. Can you give me an idea of the length of that job? Would it be a 2-year job also or longer?

Major GARRETT. That would depend upon appropriations. I believe it would be a normal 2-year job.

Mr. MAGNUSON. You could do it in 2 years?

Major GARRETT. Yes, sir.

Mr. MAGNUSON. I wish you would supply for the record a breakdown of the total cost from Vancouver to The Dalles.

Major GARRETT. I will.

Mr. MAGNUSON. Plus any further information which would be helpful to us in considering possible appropriation this year to initiate that project particularly in respect to the prospective shipping requirements at The Dalles.

Major GARRETT. Yes, sir.

(The information follows:)

COLUMBIA RIVER, VANCOUVER, WASH., TO THE DALLES, OREG.

Summarized financial data

Total estimated Federal cost (1956 base)	$5, 834, 000
Completed new work dredging from Vancouver to Bonneville	2, 934, 000
Remaining new work cost to complete 27-foot channel:	
(*a*) Improvement to lower entrance of Bonneville ship canal	910, 000
(*b*) Channel, Bonneville Dam to The Dalles	1, 990, 000
Amount of funds which could be utilized in budget year [1]:	
(*a*) Improvement of lower entrance to Bonneville ship canal	500, 000
(*b*) Channel, Bonneville Dam to The Dalles	600, 000
Restoration of the 27-foot channel from Vancouver to Bonneville, operation and maintenance:	
Total cost	2, 500, 000
Amount of funds which would be utilized in budget year	1, 250, 000

[1] Without regard to the fiscal policies of the administration.

JUSTIFICATION

The 27-foot channel from Vancouver to The Dalles, including improvement of the lower entrance to Bonneville ship canal, would enable deep-draft transportation to and from The Dalles, Oreg., 190 miles inland. Upstream water shipments would consist of petroleum products for inland markets, alumina to the Reynolds Metals Co. plant at Troutdale and alumina and/or bauxite to the Harvey aluminum plant at The Dalles, Oreg. Downstream shipments would consist of lumber, hardboard, shale, wheat, and fruit.

The project was authorized as necessary for safe and practical deep-draft navigation on the Columbia River to The Dalles.

Recent reports of local industry and organizations indicate immediately prospective movements of imported alumina requiring a deep-draft channel, as well as other prospective commercial navigation movements.

EAGLE GORGE RESERVOIR

Mr. MAGNUSON. I would also like to have inserted in the record a letter I requested from the Corps of Engineers on the Eagle Gorge Reservoir.

(The letter follows:)

DEPARTMENT OF THE ARMY,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., April 26, 1957.

Hon. DON MAGNUSON,
House of Representatives,
Washington, D. C.

DEAR MR. MAGNUSON: Reference is made to your letter of April 18, 1957, in which you ask for comments on your understanding that the fiscal year 1958 budget item of $8 million for the Eagle Gorge Reservoir project could well be increased to $10 million if the project is to be kept on its construction schedule.

When a project is authorized we develop a tentative schedule for surveys, planning, and construction, which is revised from year to year. This schedule is made up without any reference to other projects in the total civil-works program, or other program needs of the Government, or the availability of men or equipment generally in any one year. It therefore is a figure for internal planning purposes only. That figure for this project is $10 million for fiscal year 1958. For your further information the President has directed that our fiscal year 1958 expenditures, as estimated in his budget presented to the Congress, be considered as the maximum that can be made within the overall fiscal policies of the administration for that year. The amount included in the budget for the Eagle Gorge Reservoir project is the maximum that the administration believes should be allocated to that project and, accordingly, no additional funds can be utilized in fiscal year 1958 and meet the administration's objectives.

I trust that the information furnished is adequate for your present needs.

Sincerely yours,

J. L. PERSON.
Brigadier General, USA,
Assistant Chief of Engineers for Civil Works.

EMERGENCY FUND REQUIREMENTS

Mr. FENTON. In this emergency fund $15 million is provided by Public Law 99. In the regular appropriations for the various phases, is there no emergency fund provided?

Colonel REIFF. In the basins?

Mr. FENTON. Yes.

Colonel REIFF. There is not. This is for the entire country.

Mr. FENTON. I notice on page 25 you have a table of the estimates for 1957. How do you arrive at estimates for emergencies?

Colonel REIFF. This estimate was made up on January 8 when a good share of the year was past. We keep revising it. We have a new estimate since then which takes into account the emergencies that have come up.

Mr. FENTON. You have a lot of money appropriated each year.

Colonel REIFF. As you can see, this fluctuates entirely due to the whims of weather and acts of God. One year it might all be in one section of the country and next year most of it in some other section of the country.

Mr. FENTON. The estimate is made up in January for the forepart of the year 1957.

Colonel REIFF. We have some means of estimate. Information on snow conditions is a factor with which we can provide some kind of estimate on certain areas of the country. If we have a large snow pack in the middle of the winter, we can anticipate we will have high water. If we have a nominal one, we might not. But generally this estimate is on the basis of what has happened.

Mr. FENTON. Do you have a revised estimate of the current year?

Colonel REIFF. Yes, sir. I can supply it for the record if you would like.

Mr. FENTON. Yes.
Colonel REIFF. All right, sir.
(The information follows:)

Current estimate of obligations, Public Law 99—Emergency fund, fiscal year 1957

Columbia Basin	$3, 924, 000
Central and South Pacific Basin	415, 200
Central Valley Basins	2, 219, 700
All other basins	1, 527, 637
Emergency operations not included above	350, 000
Subtotal, known requirements	8, 436, 537
Estimated additional requirements	620, 723
Grand total, obligations in fiscal year 1957	9, 057, 260
Total available for obligation	9, 057, 260
Estimated unobligated balance	0

Mr. FENTON. That is all, Mr. Chairman.
Mr. RABAUT. Mr. Budge?

EMERGENCY WORK ON UPPER SNAKE RIVER

Mr. BUDGE. Is it anticipated that on the upper Snake River the corps will do emergency work on this year's floods which are about to occur? Can you tell me about that?

Colonel REIFF. I do not think any determination has been made, sir. We are getting a report from the field. As a matter of fact, we keep continually in touch with the field in these areas where we might be able to predict. At the moment we have not made a decision it will be necessary to do any work there.

Mr. BUDGE. Does the field have the authority to send in men and allocate funds?

Colonel REIFF. The field has the authority and the responsibility to make a study and to request authority providing there is time, which there would be in this case.

The field has the authority to spend some money if the emergency warrants and get this authority increased from Washington.

In a case of planning to spend money in advance, where there would be time, they come in with their recommendation.

Mr. BUDGE. There has been no determination of what you are going to do in the upper Snake River country where we have a very serious flood threat this year, as we had last year and the year before?

Colonel REIFF. To my knowledge, there has been no decision made. It is a current thing. We will have some recommendations soon.

Mr. BUDGE. When the Washington office of the corps gets that information, will you send it over to me?

Colonel REIFF. Yes, sir.

Mr. BUDGE. That is all, Mr. Chairman.

General Expenses, Corps of Engineers

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Executive direction and management:			
(*a*) Office, Chief of Engineers	$2,992,889	$3,196,000	$3,440,000
(*b*) Division offices	4,619,844	4,900,000	5,325,000
2. Review boards:			
(*a*) River and Harbor Board	410,756	485,000	515,000
(*b*) Beach Erosion Board	134,865	130,000	135,000
3. Regulation:			
(*a*) Hydraulic mining	4,997	5,000	5,000
(*b*) New York harbor	252,717	253,000	335,000
(*c*) Inspections, issuance of permits, harbor lines, etc	548,156	547,000	625,000
4. Commercial statistics	761,484	778,000	843,000
5. Special investigations	96,014	106,000	127,000
Total obligations	9,821,722	10,400,000	11,350,000
Financing: Unobligated balance no longer available	58,278		
Appropriation	9,880,000	10,400,000	11,350,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	1,137	1,185	1,217
	Full-time equivalent of all other positions	1	1	1
	Average number of all employees	1,098	1,157	1,192
	Number of employees at end of year	1,120	1,169	1,203
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,287	$5,363	$5,435
	Average grade	GS-7.0	GS-7.1	GS-7.1
	Ungraded positions: Average salary	$4,386	$4,484	$4,511
01	Personal services:			
	Permanent positions	$7,096,568	$7,608,340	$7,871,518
	Positions other than permanent	4,138	4,000	4,000
	Regular pay above 52-week base	27,251		30,222
	Payment above basic rates	97,025	93,960	91,160
	Other payments for personal services	327,328	373,000	380,000
	Total personal services	7,552,310	8,079,300	8,376,900
02	Travel	436,033	525,000	570,000
03	Transportation of things	26,938	27,000	25,000
04	Communication services	150,928	162,000	165,000
05	Rents and utility services	55,864	55,000	65,000
06	Printing and reproduction	58,993	70,000	80,000
07	Other contractual services	176,981	279,700	295,000
	Services performed by—			
	Other agencies	91,957	80,000	98,000
	"Revolving fund, Corps of Engineers"	1,176,166	1,033,200	1,133,200
08	Supplies and materials	64,464	60,800	65,000
09	Equipment	23,571	17,000	16,000
11	Grants, subsidies, and contributions: Contribution to retirement fund			450,000
13	Refunds, awards, and indemnities	3,396	6,800	6,500
15	Taxes and assessments	4,121	4,200	4,400
	Total obligations	9,821,722	10,400,000	11,350,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$9,880,000	$10,400,000	$11,350,000
Obligated balance brought forward	704,587	644,139	544,139
Total budget authorizations available	10,584,587	11,044,139	11,894,139
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	9,177,876	9,870,000	10,850,000
Out of prior authorizations	695,043	630,000	530,000
Total expenditures	9,872,919	10,500,000	11,380,000
Balance no longer available:			
Unobligated (expiring for obligation)	58,278		
Other	9,251		
Obligated balance carried forward	644,139	544,139	514,139
Total expenditures and balances	10,584,587	11,044,139	11,894,139

Mr. RABAUT. We will take up "General expenses." There is $11,350,000 budgeted for general expenses compared with $10,400,000 this year. Of the increase of $950,000, $450,000 is for retirement costs.

Put pages 27 to 37 in the record.

(The information follows:)

General expenses, fiscal year 1958

1. Executive direction and management:	
(*a*) Office, Chief of Engineers	$3,440,000
(*b*) Division offices	5,325,000
Subtotal, executive direction and management	8,765,000
2. Review boards:	
(*a*) River and Harbor Board	515,000
(*b*) Beach Erosion Board	135,000
Subtotal, review boards	650,000
3. Regulation:	
(*a*) Hydraulic mining	5,000
(*b*) New York Harbor	335,000
(*c*) General regulatory functions (inspection, issuance of permits, harbor lines, etc.)	625,000
Subtotal, regulation	965,000
4. Commercial statistics	843,000
5. Special investigations	127,000
Total, general expenses	11,350,000

1. EXECUTIVE DIRECTION AND MANAGEMENT

(*a*) *Office, Chief of Engineers*

The Chief of Engineers is responsible for carrying out a comprehensive civil works program in accordance with the directives of the Congress. The organization to implement these directives is decentralized in 38 district and 10 division offices and a number of separate boards. In order that proper direction, administration, coordination, and policy guides may be furnished these offices, it is essential that sufficient numbers of highly specialized technical and administrative employees be provided in the Office, Chief of Engineers in Washington. In addition, it is essential that sufficient funds be provided for the various expenses

of the Chief of Engineers' office such as travel, communications, and other miscellaneous expenses. During the past several years, the administration of the Civil Works program has required an increasing amount of detail in connection with its presentation to the Congress, the Bureau of the Budget and the Secretary of the Army, and the program has increased substantially. These factors have imposed a large additional work load on the Office, Chief of Engineers, and the acquisition of additional personnel has been inadequate to carry out these additional functions satisfactorily.

The amount of $3,440,000 proposed for fiscal year 1958, although $244,000 greater than the appropriation allocation for fiscal year 1957, will provide for only the minimum essential activities and services to supervise and administer the civil works program. This amount has been allocated between "Personal services" and "Other expenses" as follows:

Personal services.—$2,875,600 would be applied to the payment of salaries of personnel employed on technical, administrative and clerical functions in carrying out the civil works program. This amount represents a net increase of $70,600 above the fiscal year 1957 allocation and will provide for: 1 additional position in civil works; 2 additional positions in Office, Assistant Chief of Engineers for Personnel for training program and promotional (recruiting) work with recognized colleges; 4 additional positions to implement plans for mechanizing reports on civil works projects; 6 positions to permit transfer of OCE personnel (already engaged in publications functions) from field to departmental rolls. Pay in excess of 52 weeks.

Other expenses.—$564,400 is required during fiscal year 1958 to provide an allowance of $165,000 for retirement-fund payments not included in previous appropriations, and $399,400 to defray the cost of travel, communications, office supplies and equipment, printing and binding, and service contracts for the Office, Chief of Engineers. These requirements must be provided if the functions required of the personnel of the Office, Chief of Engineers, are to be efficiently and economically carried out.

(*b*) *Division offices*

Division offices provide the administrative and technical direction for the Chief of Engineers required for the proper supervision of subordinate district offices in carrying out the civil works program. The direction and management activities are decentralized to 10 division offices throughout the United States. One of these, the New England division, is an operating division with the equivalent of only one district performing civil functions and is therefore not supported from general expenses funds. The amount requested in fiscal year 1958 for this activity provides for the expense of operation of three division airplanes, which were also budgeted for under general expenses in fiscal year 1957 but not in fiscal year 1956. Based on a continuing analysis of the workload and utilization of personnel in division offices, the minimum requirement for the operation of the 9 division offices supported from general expenses funds in fiscal year 1958 is $5,325,000. This amount represents an increase of $425,000 above the appropriation allocation for fiscal year 1957 and is necessary to provide for the following:

(1) Increased technical supervision for the program budgeted for herein (10 technical personnel, $75,000, and travel, $10,000).

(2) Added expense of increased audit responsibilities due to transfer of district audit functions to division offices (9 auditors, $60,000, and their travel, $15,000).

(3) Added expense of retirement-fund payments ($250,000).

(4) Pay in excess of 52-week period ($15,000).

Provision of the amount requested will provide only the essential minimum funds for the continuance of these administrative and technical functions considered necessary to the efficient operation of the program.

REVIEW BOARDS

(*a*) *River and Harbor Board*

The Board of Engineers for Rivers and Harbors was authorized by section 3 of the River and Harbor Act approved June 13, 1902. The act provided for the organization in the Office of the Chief of Engineers, by detail of a board of 5 (increased to 7 by 1913 act) engineer officers from the Corps of Engineers. The the act directs that all reports on authorized preliminary examinations and surveys of river and harbor projects shall be referred to the Board for consideration and recommendation prior to submission of the reports by the Chief of Engineers with his recommendation to Congress. This directive was subsequently amended to

apply to flood control reports. The Board in its review of reports for navigation and flood control works includes consideration of hydroelectric power, major drainage, and allied water resources purposes. The Board is also authorized, upon request by the appropriate committees of Congress, to review and report through the Chief of Engineers upon any authorized project or desired improvement previously reported upon, with a view to recommending the initiation of a project or modification of an existing project. Section 6 of River and Harbor Act approved March 3, 1909, provides that the Board shall consider and approve and recommend to the Chief of Engineers plans for modification and reconstruction of any lock, canal, canalized river, or other work for use and benefit of navigation. The Chief of Engineers may refer to the Board for consideration and recommendation all special reports ordered by Congress and, in addition, assigns numerous tasks to the Board for which its staff of experts are qualified to efficiently handle the problems involved.

The resident member is ex officio secretary of the American Section of the Permanent International Association of Navigation Congresses and, in addition, serves on various interagency and Department of the Army Committees and Boards. In the administration of the American Section all available information on foreign ports and waterway developments is coordinated for objective use for similar improvements in the United States.

Various congressional acts have imposed upon the Secretary of the Army and the Chief of Engineers the duty of (1) the compilation and publication annually of useful statistics, data and information concerning the volume and type of commerce moving on the inland waterways, on the Great Lakes, and through all ocean ports; (2) the compilation and publication annually of a report listing and describing all United States-flag self-propelled and non-self-propelled vessels engaged in commerce, including the principal trade in which they are engaged and their zone of operations; (3) the publication periodically of Port and Lake Series Reports containing narrative and tabular information on all facilities available to shipping at the principal United States ports; and (4) the publishing of reports covering the principal ports of the United States giving comprehensive information relative to the services available to shipping and the charges therefor. The Chief of Engineers has assigned all of these functions to the Board which has set up a Statistical Division for this work. The expense of these functions is paid from funds provided for the River and Harbor activity except for the expense of items (1) and (2) which is paid from commercial statistics funds allotted to the Board. The Department of Defense requires essential information relative to foreign ports and waterways. Owing to experience in similar work in the domestic field, the function was assigned to the Chief of Engineers who delegated it to the Board. A Foreign Ports Branch was set up in the Statistical Division and is paid for from military funds.

The estimate of River and Harbor Board expenses for fiscal year 1958 is $515,000 exclusive of $40,000 estimated reimbursements for services to be performed by the Board on a reimbursable basis. This sum included $434,000 for the Board proper of which $30,000 is for the retirement fund, and $81,000 for expenses relating to the Domestic Ports Branch of the Statistics Division which included $10,000 for printing of reports on domestic ports and inland waterway terminal facilities. The amount requested, exclusive of retirement fund allowance, is the same as the appropriation allocation for fiscal year 1957 and is considered to be the absolute minimum necessary for this activity.

(*b*) *Beach Erosion Board*

The Beach Erosion Board was established in accordance with section 2 of the River and Harbor Act approved July 3, 1930. The act authorizes and directs the Chief of Engineers to make investigations and studies in cooperation with appropriate agencies of the various coastal and Great Lakes States and Territories with a view to devising effective means of preventing erosion of the shores of coastal and lake waters by waves and currents. The act prescribes that there be organized under the Chief of Engineers, by detail from time to time from the Corps of Engineers and from the State agencies charged with beach, erosion and shore protection, a board of 7 members of whom 4 shall be officers of the Corps of Engineers and 3 shall be selected with regard to their special fitness by the Chief of Engineers from the cooperating State agencies. The act provides that the Board will furnish such technical assistance as may be directed by the Chief of Engineers in the conduct of such studies and review the report of each investigation made. Section 3 of Public Law 166, 79th Congress, July 31, 1945, provides that the Beach Erosion Board, in making its report on cooperative studies made under provisions of the 1930 act, shall, in addition to any other matters upon

which it is required to report, state its opinion as to (*a*) the advisability of adopting the project; (*b*) what public interest, if any, is involved in the proposed improvement; and (*c*) what share of the expense, if any, should be borne by the United States. This law further provides that, in addition to making cooperative studies as above described, it shall be the duty of the Chief of Engineers, through the Beach Erosion Board, to make general investigations with a view to preventing erosion of the shores of the United States by waves and currents and determining the most suitable methods for the protection, restoration, and development of beaches, and to publish from time to time such data pertaining thereto as the Board may deem to be of public value.

In carrying out its functions with respect to the review of reports in cooperative studies and preliminary examinations and surveys, the procedures of the Beach Erosion Board are similar to those of the River and Harbor Board. An additional function of the Beach Erosion Board, when requested by the Chief of Engineers, is to comment on the shoreline aspects of improvements considered in navigation reports as required by section 5 of Public Law 409, 74th Congress, August 30, 1935.

The Beach Erosion Board maintains its headquarters in the District of Columbia, under direction of the President of the Board, assisted by a technical and administrative staff and with facilities including four temporary buildings, an indoor and outdoor laboratory, and equipment required for laboratory, and field studies. Funds in the amount of $135,000 are requested for "Expenses, Beach Erosion Board," in discharge of their "General expenses" functions described above. The increase of $5,000 requested above the appropriation allocation for fiscal year 1957 is the amount required for retirement fund payments.

3. REGULATION

(*a*) *Hydraulic mining*

This item is to provide for the administrative expense of the California Debris Commission, created under the act of March 1, 1893. Under authority of this act the commission regulates hydraulic mining operations, plans the improvement of conditions upon the Sacramento and San Joaquin Rivers and their tributaries affected by such operations, and prepares plans to enable hydraulic mining to be resumed in their drainage areas. On application by prospective miners, full investigation is made by the commission, and permits to operate are issued to those who provide satisfactory debris restraining basins by construction of suitable dams where necessary or use Government constructed restraining reservoirs. An estimate of $5,000 is submitted for such work during the fiscal year 1958 in order to continue the work assigned to the commission and to meet the needs of the State and general public, which requires consultation with the commission under the provisions of this improvement. This amount is the same as the appropriation allocation for fiscal year 1957.

In addition to the regulatory responsibilities described above, the act provides for the commission, under the supervision of the Chief of Engineers, to construct and maintain dams and other works for detention of debris from hydraulic mining operation. Federal funds expended for such work are reimbursed from the "debris fund" comprised of taxes collected on hydraulic mining operations.

(*b*) *New York Harbor*

The act of June 29, 1888, provided for the preservation of the tidal waters of New York Harbor, its adjacent or tributary waters, and the waters of Long Island Sound. The laws are administered by the supervisor of New York Harbor, who is the district engineer at New York. The supervisor is charged, under the laws, with the duties of preventing any obstructive or injurious deposits in all waters under his jurisdiction and preventing fishing, dredging of shell fish, or other activity which would interfere with navigation of entrance channels of New York Harbor by ships of deep draft.

This work involves the control of dumping of approximately 19 million cubic yards of refuse or excavated material of which 9 million cubic yards is disposed of at sea and 10 million cubic yards by land fills. The lack of adequate control will inevitably result in large quantities of these materials being deposited in the navigable channels necessitating their removal at a far greater expense than is entailed by adequate control. Supervision is exercised by means of inspectors and patrols, with salaries and wages representing the major cost of the work, the remainder being expended for maintenance and operation of the patrol vessels. An estimate of $335,000 is included for fiscal year 1958. This amount represents an increase of $82,000 over the funds provided for this activity in fiscal year 1957

and will provide $15,000 for retirement fund payments and $67,000 for increased labor (wage board) and plant costs with no increase in coverage and scope of operations from that maintained in fiscal years 1955 and 1956. The amount requested is considered to be the minimum necessary to provide the control required to prevent increased pollution and the deposition of waste and drift hazardous to navigation.

(c) *General regulatory functions (inspections, issuance of permits, harbor lines etc.)*

This activity pertains generally to the essential administration of the laws for the protection and preservation of the navigable waters of the United States In connection with such administration, this activity is concerned with examinations, inspection and issuance of permits; the issuance of regulations, and the examinations and inspections of bridges and bridge plans; the establishment and revision of harbor lines; the establishment and inspection of fish stake limits; and necessary investigations of such matters as reported obstructions and wrecks (not removed) and oil pollution.

The amount of $625,000 requested for fiscal year 1958 will provide for the entire cost of essential activities and is considered to be the minimum consistent with the current program which will insure satisfactory results. The increase of $78,000 above the appropriation allocation for fiscal year 1957 is required to provide $28,000 for retirement fund payments and $50,000 for the increase in examinations and inspections of plans and specifications of bridges scheduled for initial construction or major alterations; the increasing need for revision of harbor lines which has been deferred for several years due to lack of funds and have now become obsolete due to changes in channel alinement or the development of new docking terminals and industrial facilities; and the replacement or establishment of fishing area limit buoys which have deteriorated through extensive use or been lost as the result of storms.

4. COMMERCIAL STATISTICS

This activity consists of the collection of domestic waterborne commerce statistics pertaining to rivers, harbors, and waterways and the compilation and the publication of such data in conformance with the River and Harbor Act of September 22, 1922. This activity includes the collection and reporting of necessary statistical data by district offices and the collection, processing, compiling, and annual publication of such statistical data and information on waterborne commerce and vessels moving on inland waterways, the Great Lakes and through all ocean ports as performed by the four regional statistical offices of the Corps of Engineers and by the River and Harbor Board. In addition to the funds to be expended for collection, compilation, and publication of data on domestic waterborne commerce, the amount requested for this activity includes $98,000 to reimburse the Bureau of the Census for costs incurred in furnishing the Chief of Engineers complete port and waterway data on the foreign waterborne commerce of the United States. This arrangement was instituted under the sponsorship of the Bureau of the Budget in 1947 to eliminate duplication of collection and compilation of foreign commerce data. The amount requested for commercial statistics in fiscal year 1958 is $843,000 and is considered to be the minimum necessary to satisfactorily accomplish this function. The increase of $65,000 above the appropriation allocation for fiscal year 1957 is required to provide $28,000 for the increased cost of Bureau of the Census services and $37,000 for retirement fund payments.

5. SPECIAL INVESTIGATIONS

This activity consists of special investigations, and reports of nominal scope prepared pursuant to congressional and other special request from sources outside the Corps of Engineers, for information relative to projects or other activities which have no funds; similar work of detailed scope as specifically authorized by the Chief of Engineers; and the review of Federal Power Commission licenses, and reports of other agencies. Among the investigations paid for from these funds are reconnaissance investigations relating to flooding potential and flood damages, bank erosion, drainage, harbor improvements, anchorages, and development of navigation channels. The costs of making investigations of this nature and preparing reports thereon vary widely, and the Chief of Engineers cannot anticipate the number or extent of requests that may be received to which prompt and full compliance should be given.

Past experience indicates that the amount of $127,000 requested for fiscal year 1958 will provide for only the essential services included under this activity.

Although this amount is an increase of $21,000 over the funds provided in fiscal year 1957, it is considered to be the minimum that will provide for the retirement fund and the actual experience requirements of the program

ADDITIONAL POSITIONS, OFFICE OF CHIEF

Mr. RABAUT. Explain the need for the 13 additional positions proposed for the Office of the Chief of Engineers.

Colonel REIFF. The 13 positions, sir, that we are asking for in the Office of the Chief of Engineers is 1 engineer in the Civil Works Division for 2 jobs that are today being only handled by additional assignments. One is the work on Public Law 566 in connection with the watershed improvement program, and the other is on the increasing interest in water supply.

We are requesting two additional positions in the Office of the Assistant Chief of Engineers for Personnel to assist in the recruitment and training of engineers, a field in which we are doing intensive work but which needs to be intensified still further in order to obtain and retain the quality of personnel required for the program.

We have four positions in the Administrative Services Division which are intended to expand the use of machines in processing the currently limitless reports we are having to furnish information on, particularly in connection with our 6-year program where the large program needs to be analyzed in many respects to furnish data to Congress, to the Bureau of the Budget and to outside interests.

The other six positions in OCE are positions that are already filled. They are positions also in the Administrative Services Division and in the Procurement Services Branch. They are personnel who are responsible for receiving, storing, issuing, distributing OCE forms, OCE publications, as well as AGO and other Federal agency publications to the field.

We have in the past carried these six people on the field rolls because they were really furnishing a service to the field. The Bureau of the Budget feels that these six positions should be considered a part of our departmental rolls and considered under "General expense." They are in here in order to do that. They do not represent hiring new people.

Mr. RABAUT. In other words, you make a transfer of these six?

Colonel REIFF. That is right. As far as OCE is concerned, there are only 7 new positions and 6 transferring from one roll to another.

Mr. RABAUT. How long ago was it that we gave you an increase for the main office of the corps, that is, in personnel?

Colonel REIFF. I am trying to recall, sir. I do not believe that there were any in last year's appropriation. I would have to check that, sir.

Mr. RABAUT. Do you have the information here?

Colonel REIFF. Your question, sir, was as to personnel?

Mr. RABAUT. Yes.

Colonel REIFF. Not that in the "General expense" appropriations.

Mr. RABAUT. On personnel, the number of positions? What did you have in 1956 and what did you have in 1957 in this Office?

Colonel REIFF. Yes, sir; I think I have that.

Mr. RABAUT. What are you proposing now in this increase? I want to know how this Office is growing.

Colonel REIFF. In 1956 we had 375 authorized in OCE; in 1957 we had 384.

Mr. RABAUT. 1956?

Colonel REIFF. 375.

Mr. RABAUT. Then 384?

Colonel REIFF. Yes, sir; and we are asking for 13 to bring it up to 397 this year.

Mr. RABAUT. Of the 13, 6 are by transfer?

Colonel REIFF. Yes. Six of them are not an increase.

Mr. RABAUT. Were some of the others last year transfers too? Do you remember?

Colonel REIFF. I do not recall, sir.

Mr. RABAUT. You can supply that for the record?

Colonel REIFF. I can supply that for the record.

(The requested material follows:)

	Positions
Fiscal year 1957 budget	384
Fiscal year 1956 authorized	375
Net change	+9

Increase of 9 positions is allocated, 8 positions in Civil Works Division and 1 position in Engineer Comptroller. None of these positions were transfers.

	Positions
Fiscal year 1958 budget	397
Fiscal year 1957 budget	484
Net change	+13

Increase of 13 positions in 1958 over 1957 represents a transfer of 6 employees working in OCE and carried on field rolls, increase of 4 positions in Administrative Service Division, 2 positions in Civilian Personnel Division, and 1 position in Civil Works Division.

INCREASE FOR DIVISION OFFICES

Mr. RABAUT. Why is the increase of $175,000 necessary for the division offices in addition to the retirement costs?

Colonel REIFF. Sir, we are asking for an increase of 19 personnel in our division office strength—10 engineers and 9 auditors. The 10 engineers is a matter of supplementing our technical capability in the division offices to give the required review to our program which has increased substantially in the last couple of years. The 9 auditors are 1 for each of our divisions and again does not represent really an increase in the personnel, corpswide, but a transfer of responsibility that has been done by our district offices to our division offices.

Mr. RABAUT. Are they receiving advances in grades, too?

Colonel REIFF. Yes, sir; they will probably be hired at a grade higher than they have been in the district. Both the GAO and the Army Audit Agency have criticized us in the past for having a man on the district engineers payroll auditing his accounts. They feel that it should be audited by the next higher echelon. This is an attempt to do that, and we think it is a good business proposition. The positions will undoubtedly be filled by the best qualified people we have in the district, but they will be working for the next higher echelon and therefore in the "General expense."

Mr. RABAUT. The revolving fund of the corps is shown on page 39 and travel costs under this fund increased from $5,629,770 in 1956 to

$6,129,000 in 1958. This is a jump of a half million dollars. What is the reason for this?

Colonel REIFF. Sir, the revolving fund, as you know, is a device to serve our accounting system. It acts in the way of a contractor by paying current costs and being reimbursed from the proper fund to which the item ultimately is charged. This represents probably some increase in travel, but it also represents primarily an increased use of the revolving fund for payment of travel. This is not only civil-works travel but it is all the travel that is processed through the revolving fund.

Mr. RABAUT. You will have to give us a breakdown of the personnel travel.

Colonel REIFF. All right, sir.

Mr. RABAUT. From 1956 to 1958 under this revolving fund you have gone up from $175 million to $197 million?

Colonel REIFF. Yes, sir; but this is only a fund that is expended from and reimbursed to. The reimbursements are all someplace else in the budget.

Mr. RABAUT. That is true but every one has gone up, practically every one. The only one that has gone up very little is the pay and allowances to commissioned officers, and it dropped in 1957.

The civilian item is up from $80 million to $94 million-plus. Communications is not up too bad but it is up. Rents are down from 1956 but up from 1957. The item of land and structures is up from $160,000 in 1957 to $1,335,000 in 1958.

What causes that jump, some particular activity?

Colonel REIFF. Sir, I think we have to understand that——

Mr. RABAUT. This money is transferred?

Colonel REIFF. The totals in here only represent the parts of our appropriations that are expended through the revolving fund. It really has no relationship to the total amount of expenditures.

Mr. RABAUT. It is the money that is taken from this revolving fund and then reimbursed?

Colonel REIFF. For convenience.

Mr. RABAUA. Give us the information on that travel aspect.

Colonel REIFF. All right, we will be glad to supply that for the record.

Mr. RABAUT. How much of the travel increase is attributable to the district offices? Do you want to supply that later?

Colonel REIFF. No particular part of the increase can be identified as specifically attributable to district office civil travel.

Mr. RABAUT. What about the travel?

Colonel REIFF. All right, sir. We will supply a statement for the record.

(The requested material follows:)

The table on page 38a shows revolving fund accrued expenditures by objects. The increases in substantially all objects between 1956 actual and 1958 estimate represents a composite of (1) the general increase in programs and (2) the extension in scope of the revolving fund to initially finance expenditures (including travel) which are ultimately charged to military funds. The revolving fund is utilized, for accounting convenience, for expenditures reimbursable from many appropriations. Summaries of expenditures from the revolving fund to individual appropriation, by object, are not maintained. The actual costs of district office travel on civil functions (without regard to whether or not it was initially financed through the revolving fund) were $2,760,000 for 1956, and are

estimated at $2,900,000 for 1957. These expenditures for travel may be compared with the total civil works program expenditures of approximately $511 million in fiscal year 1956 and $630 million in fiscal year 1957.

St. Lawrence River Joint Board of Engineers

Mr. Rabaut. I will now go on to the next section, the St. Lawrence River Joint Board of Engineers. We will insert in the record at this point page 38.

(The page referred to follows:)

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities: Review of designs, plans, and specifications (total obligations)	$103,201	$150,000	$125,000
Financing: Unobligated balance no longer available	46,799		
Appropriation	150,000	150,000	125,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	8	8	8
	Average number of all employees	8	8	8
	Number of employees at end of year	8	8	8
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,287	$5,393	$5,435
	Average grade	GS–7.0	GS–7.1	GS–7.1
01	Personal services:			
	Permanent positions	$66,174	$69,000	$70,031
	Regular pay above 52-week base	255		269
	Total personal services	66,429	69,000	70,300
02	Travel	1,929	2,500	2,400
03	Transportation of things	4		
04	Communication services	681	900	800
05	Rents and utility services	2,477	3,600	3,100
06	Printing and reproduction	13		
07	Other contractual services	1,962	2,800	2,400
	Services performed by—			
	Other agencies	13,408	21,500	15,000
	"Revolving fund, Corps of Engineers"	14,966	47,800	24,900
08	Supplies and materials	720	1,000	900
09	Equipment	612	900	700
11	Grants, subsidies, and contributions: Contribution to retirement fund			4,500
	Total obligations	103,201	150,000	125,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$150,000	$150,000	$125,000
Obligated balance brought forward	14,268	6,705	5,000
Total budget authorizations available	164,268	156,705	130,000
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	96,496	145,000	120,000
Out of prior authorizations	12,693	6,705	5,000
Total expenditures	109,189	151,705	125,000
Balance no longer available:			
Unobligated (expiring for obligation)	46,799		
Other	1,575		
Obligated balance carried forward	6,705	5,000	5,000
Total expenditures and balances	164,268	156,705	130,000

UNITED STATES SECTION, ST. LAWRENCE RIVER JOINT BOARD OF ENGINEERS

Executive Order 10500, dated November 4, 1953, established the United States section of the St. Lawrence River Joint Board of Engineers. The duties of the United States section includes review of plans and coordination of construction, in conjunction with the Canadian section of the Joint Board, of power facilities being constructed in the International Rapids section of the St. Lawrence River by the Power Authority of the State of New York jointly with the Hydroelectric Power Commission of Ontario. The Executive order authorizes the Department of the Army and the Federal Power Commission to furnish to the United States section necessary assistance for effectuating the order, including facilities, supplies, and personnel. Funds in the amount of $150,000 were provided for this work in fiscal year 1957. The amount of $125,000 is requested to defray expenses to be incurred during fiscal year 1958, pending the reimbursement of such amount by the Power Authority of the State of New York.

Mr. RABAUT. $125,000 is requested for this item, a decrease of $25,000 from the amount available this year. This item is reimbursed by the Power Authority of the State of New York. What causes the decrease there?

Colonel REIFF. From $150,000 last year to $125,000 this year?

Mr. RABAUT. Yes.

Colonel REIFF. As you know, sir, this is work that we are doing with Canada, and it is fully reimbursable from the Power Authority of the State of New York. The appropriation is only so that we will have current money to spend for it. It is reimbursed and any amounts left over at the end of the year revert to the Treasury.

LANGUAGE CHANGES

MONETARY AUTHORIZATION CEILINGS

Mr. RABAUT. Now we have some language changes. There appears to be only one other significant language change other than the one we discussed earlier. It is on page 53 and pertains to including funds for projects where additional monetary authorization ceilings are pending before the legislative committees.

Please explain the purpose of this new language.

Colonel REIFF. The purpose of the language is—there are included in the Presidential budget this year requests for construction funds

in three basins or areas—where, if the funds are appropriated as requested, it would exceed the presently authorized limitation. The reason for this language is to restrict us from spending that money, in case it is appropriated, unless the authorization extension is given in the current authorization bill, Senate Document 497, which has been passed by the Senate. In case that is not passed we would be restricted from spending those parts of the funds that were in excess of our present authorization.

Mr. RABAUT. I understand. Then, you seek the restriction unless the new monetary authorization is passed?

Colonel REIFF. Yes, sir.

BUFORD-TRENTON IRRIGATION DISTRICT

Mr. RABAUT. Regarding this language in this year's act for the Buford-Trenton Irrigation District, the Senate in the urgent deficiency bill, which is still in conference, has increased the amount to pay for the cost of contiguous lands being purchased for the Garrison Reservoir.

Tell us a little bit about the need for that language.

Colonel REIFF. I would like to ask Major Garrett to give you that.

Major GARRETT. As you recall the appropriation act of last year contained language which directed the Secretary of the Army to acquire lands and improvements in and contiguous to Buford Irrigation District in lieu of protecting those lands. It provided that the landowners have offered to sell their land on or before the 30th of June 1957. The act provided that $1,341,891 of funds appropriated for the Garrison project were available for the purchase of the land in and contiguous to this district. We met with the representatives of the Buford-Trenton Irrigation District in August of last year to discuss the acquisition of these lands. It developed that the funds provided in the act were only sufficient to meet their price for the lands within the district, leaving no funds to acquire lands contiguous to the district. Therefore, we had not been able to reach a settlement with them.

As you have indicated the urgent deficiency bill that is now pending does contain language providing an additional amount.

Mr. RABAUT. Is that land to be taken in fee, or are we just to take rights-of-way?

Major GARRETT. The land is going to be taken in fee, sir. It is cheaper to take it than to protect it.

Mr. RABAUT. I know. How much money is needed for the purpose?

Major GARRETT. I believe the additional amount, sir, is $280,900.

Mr. RABAUT. You have the money?

Major GARRETT. Yes, sir; we have the money to accomplish that.

Mr. RABAUT. You need the limitation raised?

Major GARRETT. Yes, sir.

Mr. RABAUT. All right. Are there any questions?

Mr. JENSEN. You say here that you want to acquire additional land contiguous to the district?

Major GARRETT. The east bottom of the Buford-Trenton District.

Mr. JENSEN. That would be land that would not be inundated, that you want to purchase; is that right?

Major GARRETT. No, sir; that is land that was included in our plan of protection. Protection was going to be provided for those contiguous lands always.

Mr. JENSEN. Would this land that you propose to purchase be inundated, or might it be inundated at some future time?

Major GARRETT. Yes, sir. It might be inundated at some future time operating the reservoir at 1850.

Mr. JENSEN. At 1850?

Major GARRETT. Yes, sir.

Mr. JENSEN. So it is necessary that that land belong to the Government, as you see it?

If it did not belong to the Government, you would be flooding private land and you would be subjected then to suits against the Federal Government, for example, would you not?

Major GARRETT. Sir, due to commitments that we have made in testimony in previous years, and in our contact with the people there, we feel that we are morally obligated to provide protection to these lands. About 2½ years ago——

Mr. JENSEN. To provide protection for these lands. How?

Major GARRETT. We had planned for a system of levees to provide that protection. About 2½ years ago, as you recall——

Mr. JENSEN. That will take how much land, to provide that protection?

Major GARRETT. The estimated cost of providing the protection, sir, including a capitalized amount for operation and maintenance was $7,961,000.

Mr. JENSEN. That was the total?

Major GARRETT. That was the total for the Buford-Trenton Irrigation District and lands contiguous.

Mr. JENSEN. That included the contiguous land you are now proposing to purchase?

Major GARRETT. Yes, sir.

Mr. JENSEN. I see.

Major GARRETT. Protection for that land. About 2½ years ago, as you recall, the people dwelling in that area approached us with the idea of selling their land rather than us protecting them. That is the purpose of the language contained in these appropriation acts.

Mr. JENSEN. Thank you, Mr. Chairman.

Mr. RABAUT. The land purchased up to date is how much?

Major GARRETT. We have not purchased any land up to the present time.

Mr. RABAUT. What will be the difference in your estimated figure then, the difference under this proposed plan that you have before us now?

Major GARRETT. Sir, as I have indicated, the estimated cost of providing protection is approximately $8 million. The estimated cost of purchasing the land is $1,622,791. There is an amount of $2 million to provide protection to the intake to a pumping plant and bank stabilization. The figures we should compare are $7,961,000 versus $4,622,000.

Mr. RABAUT. So the Government comes up with a saving?

Major GARRETT. Yes, sir.

Mr. JENSEN. The line has been protected so that it does not wash under like the river started to do a year ago?

Major GARRETT. That is the purpose of the $2 million and the bank stabilization also.

Mr. JENSEN. You had quite a problem there a few years ago?

Major GARRETT. Yes, sir.

Mr. JENSEN. The river was threatening to wash under your pumping plant, but all of that now has been taken care of?

Major GARRETT. It is in the offing.

Mr. JENSEN. It is in the offing?

Major GARRETT. It is in the urgent deficiency bill.

Mr. RABAUT. Before we go, I would like to take up the Bureau of Reclamation. That is all for the Corps of Engineers.

Thank you very much, gentlemen. We are very glad to be informed and we thank you for the information you have given us this morning as well as what you will supply later for the record.

Colonel REIFF. Thank you, Mr. Chairman.

UNOBLIGATED BALANCES

Mr. RABAUT. At this point in the record we will insert the unobligated balances of the Corps of Engineers and the Bureau of Reclamation as of April 30, 1957, and as estimated for June 30, 1957.

(The information follows:)

CORPS OF ENGINEERS

Alaska, Hawaii, and Puerto Rico

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Dry Pass, Alaska	0	0	0	0	0	0
Ketchikan Harbor, Alaska	0	0	$481,245	$482,005	$482,000	$482,000
Kodiak Harbor, Alaska	$339	$339	481,164	481,834	480,000	480,000
Kawaihae Harbor, T. H.	0	0	927,576	1,235,578	925,000	925,000
Basin total	339	339	1,889,985	2,199,417	1,887,000	1,887,000

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Arkansas River and tributaries, Arkansas and Oklahoma (emergency construction)	$156,510	$1,052,591	$391,885	$1,192,245	$162,350	$162,754
FLOOD CONTROL						
Calion, Ark.	0	0	271,490	346,490	264,900	264,900
Red River levees and bank stabilization below Denison Dam, Ark., Tex., and La.	2,963	31,232	19,390	170,735	0	[1] 0
Toronto Reservoir, Kans.	269,750	1,409,187	1,652,239	2,585,294	993,876	1,561,364
Wichita and Valley Center, Kans.	1,006,901	2,211,769	740,408	1,338,877	779,650	904,908
Keystone Reservoir, Okla.	0	0	395,692	624,920	144,278	360,278
Oologah Reservoir, Okla.	88,680	500,041	2,237,661	2,590,048	1,684,150	2,436,866
Ferrells Bridge Reservoir, Tex.	[2] 0	639,629	230,015	776,546	0	[2] 0
MULTIPLE PURPOSE INCLUDING POWER						
Bull Shoals Reservoir, Ark. and Mo. (addition of units 5 and 6)	0	0	0	0	0	0
Dardanelle lock and dam, Arkansas	95,526	200,337	469,396	503,209	125,600	260,600
Greers Ferry Reservoir, Ark.	0	0	248,143	352,765	90,000	90,000
Table Rock Reservoir, Mo. and Ark.	[4] 0	[4] 0	921,199	3,065,525	0	[5] 250,000
Eufaula Reservoir, Okla.	68,855	100,006	47,265	582,915	0	281,063
Denison Dam (Lake Texoma), Tex. and Okla. highway bridge at Willis site	0	0	766,512	854,509	34,281	644,295
Basin total	1,689,185	6,144,792	8,391,295	14,984,078	4,279,085	7,217,028

[1] $30,000 transferred to project on a permanent basis.
[2] In addition to status of project funds shown, $102,112 were obligated from funds loaned to this project.
[3] $509,000 transferred to project on a permanent basis.
[4] In addition to status of project funds shown, $1,993,407 were obligated and $1,171,099 expended from funds loaned to this project.
[5] $1,913,000 transferred to project on a permanent basis.

Central and South Pacific Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Playa del Rey Inlet and Basin, Calif.	$17,507	$17,507	$332,150	$332,150	$200,000	$200,000
Redondo Beach Harbor, Calif.	16,637	203,997	52,133	52,143	0	[1] 0
San Diego River and Mission Bay, Calif.	13,441	13,441	837,859	837,909	580,000	580,000
FLOOD CONTROL						
Carbon Canyon Dam and Channel, Calif.	0	0	0	0	0	0
Devil, East Twin, Warm and Lytle Creeks, Calif.	442,969	575,651	235,136	442,127	450,000	[2] 450,000
Los Angeles County, drainage area, California	[3] 0	[3] 0	831,615	2,136,862	300,000	[4] 533,000
Riverside levees, California	55,210	111,710	243,096	421,275	230,000	230,000
Russian River Reservoir, Calif.	24,036	100,152	156,078	181,288	0	0
San Antonio and Chino Creeks Channel, Calif.	246,392	354,030	90,720	152,668	0	50,000
San Lorenzo River, Calif.	0	0	170,698	187,957	95,000	95,000
Basin total	816,192	1,376,488	2,949,485	4,744,379	1,855,000	2,138,000

[1] $265,000 transferred to project on a permanent basis.
[2] $235,000 transferred from project on a permanent basis.
[3] In addition to status of project funds shown, $2,012,563 were obligated and $988,259 expended from funds loaned to this project.
[4] $1,200,000 transferred to project on a permanent basis.

Central Valley Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Sacramento River (deepwater ship channel), Calif.	$68,819	$388,294	$340,494	$542,581	$190,000	[1] $290,000
San Joaquin River (Stockton deepwater channel), Calif.	75,589	75,589	133,305	167,774	65,000	115,000
FLOOD CONTROL						
American River levees, California	0	0	364,205	367,476	150,000	250,000
Lower San Joaquin River and Tributaries, California	72,051	188,051	346,603	367,978	198,000	198,000
Middle Creek, Calif.	0	0	0	0	0	0
Sacramento River flood control project, California	1,200,895	2,692,383	1,206,373	1,890,846	590,000	[2] 1,350,000
Sacramento River and major and minor tributaries, California	0	0	116,550	116,694	5,000	55,000
San Lorenzo Creek, Calif.	0	0	0	0	20,000	20,000
Success Reservoir, Calif.	0	0	991,943	2,097,647	20,000	560,000
Terminus Reservoir, Calif.	0	0	239,518	332,266	0	200,000
Basin total	1,417,354	3,344,317	3,738,991	5,883,262	1,238,000	3,038,000

[1] $340,000 transferred to project on a permanent basis.
[2] $860,000 transferred from project on a permanent basis.

Colorado Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
FLOOD CONTROL						
Painted Rock Reservoir, Ariz.	$19,830	$233,351	$1,874,625	$1,923,663	$1,795,000	[1] $1,795,000
Mathews Canyon Reservoir, Nev.	0	0	27,620	170,989	0	0
Pine Canyon Reservoir, Nev.	0	0	5,393	51,482	0	0
Basin total	19,830	233,351	1,907,638	2,146,134	1,795,000	1,795,000

[1] $375,000 transferred from the project on a permanent basis.

Columbia Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Columbia River at the mouth, Oregon and Washington	[1] 0	[1] 0	$126,351	$126,584	0	0
Columbia River at Baker Bay, Wash.	0	0	57,816	57,816	0	0
FLOOD CONTROL						
Amazon Creek, Oreg.	0	0	108,668	108,668	0	0
Multnomah Drainage District No. 1, Oreg.	0	0	0	0	0	0
Pendleton, Oreg.	0	0	0	0	0	0
Willamette River bank protection, Oregon	$602	$16,564	111,192	111,192	0	0
MULTIPLE-PURPOSE PROJECTS INCLUDING POWER						
Cougar Reservoir, Oreg.	55,059	154,551	481,883	590,881	0	[2] 0
Hills Creek Reservoir, Oreg.	[3] 0	[3] 0	481,859	576,752	0	[4] 0
The Dalles Dam, Oreg. and Wash.	2,092,822	3,514,938	1,372,526	2,831,029	0	[5] $457,000
Chief Joseph Dam, Wash.	[6] 0	[6] 0	279,160	1,269,435	0	[7] 10,000
Ice Harbor lock and dam, Wash.	[8] 0	[8] 0	356,481	1,013,074	0	[9] 224,000
Basin total	2,148,483	3,686,053	3,375,936	6,685,431	0	691,000

[1] In addition to status of project funds shown, $131,294 were obligated and $126,443 expended from funds loaned to this project.
[2] $240,000 transferred to project on a permanent basis.
[3] In addition to status of project funds shown, $158,218 were obligated and $60,325 expended from funds loaned to this project.
[4] $295,000 transferred to project on a permanent basis.
[5] $3,000,000 transferred to project on a permanent basis.
[6] In addition to status of project funds shown, $225,000 were obligated and $106,600 expended from funds loaned to this project.
[7] $500,000 transferred to project on a permanent basis.
[8] In addition to status of project funds shown, $299,971 were obligated and $275,965 expended from funds loaned to this project.
[9] $1,200,000 transferred to project on a permanent basis.

Great Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
FLOOD CONTROL						
Salt Lake City, Utah	0	0	0	0	0	0
Basin total	0	0	0	0	0	0

Great Lakes-St. Lawrence Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Illinois Waterway, Calumet-Sag modification, (pt. 1), Illinois and Indiana	[1] 0	$3,202,070	$4,059,478	$7,515,864	$2,371,300	[2] $6,128,900
Cheyboygan Harbor, Mich	0	0	14,155	108,155	0	50,000
Great Lakes connecting channels, Michigan	0	0	2,001,187	4,476,995	567,868	2,747,516
Harrisville Harbor, Mich	0	0	253,810	253,810	254,000	254,000
Saginaw River, Mich	0	0	0	0	0	0
St. Marys River, Mich. (improvement of South Canal)	$337,445	337,445	304,525	335,025	0	301,445
Whitefish Point Harbor, Mich	0	0	66,898	66,898	66,500	66,500
Barcelona Harbor, N. Y	0	0	2,686	185,988	52,000	227,900
Oswego Harbor, N. Y. (detached breakwater shoal removal)	0	0	431,445	431,445	300,000	300,000
Ashtabula Harbor, Ohio (East Outer Harbor)	[3] 0	[3] 0	109,180	921,358	90,700	[4] 617,800
Toledo Harbor, Ohio (removal of center dike)	0	0	241,477	376,477	227,600	227,600
ALTERATION OF BRIDGES						
Houghton-Hancock Bridge, Mich	0	0	497,945	497,945	410,000	410,000
FLOOD CONTROL						
Battle Creek, Mich	0	0	115,019	453,513	83,081	355,012
Wellsville, N. Y	5,135	325,135	233,929	351,929	225,435	311,935
East Barre Reservoir, Vt. (modification of dam)	0	0	22,924	636,751	0	335,000
Basin total	342,580	3,864,650	8,354,658	16,612,153	4,648,484	12,333,608

[1] In addition to status of project funds shown, $890,816 were obligated from funds loaned to this project.
[2] $1,140,000 transferred from project on a permanent basis.
[3] In addition to status of project funds shown, $69,588 were obligated and expended from funds loaned to this project.
[4] $193,000 transferred from project on a permanent basis.

Gulf and South Atlantic Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Jackson lock and dam, Alabama	0	0	$84,253	$268,883	0	0
Warrior lock and dam, Alabama	$1,040,417	$3,571,504	271,617	2,688,773	$171,700	$284,100
Savannah River below Augusta, Ga. and S. C.	0	0	0	0	0	0
Intracoastal Waterway, Jacksonville to Miami, Fla.	0	0	26,773	130,351	140,000	140,000
St. Augustine Harbor, Fla.	80,070	80,586	50,686	151,407	9,000	9,000
Tampa Harbor, Fla.	[1] 0	[1] 0	184,501	550,802	94,000	94,000
Atlantic Intracoastal Waterway, Masonboro Inlet, N. C.	0	0	6,217	6,217	2,000	2,000
FLOOD CONTROL						
Central and southern Florida	[2] 0	356,541	1,174,263	3,122,512	463,000	1,121,000
MULTIPLE PURPOSE						
Fort Gaines lock and dam, Alabama Georgia	[3] 0	284,090	285,386	813,996	0	152,000
Basin total	1,120,487	4,292,721	2,083,696	7,732,941	879,700	1,802,100

[1] In addition to status of project funds shown, $304,337 were obligated and $288,314 expended from funds loaned to this project.
[2] In addition to status of project funds shown, $279,958 were obligated from funds loaned to this project.
[3] In addition to status of project funds shown, $249,275 were obligated from funds loaned to this project.

Lower Mississippi Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Gulf Intracoastal Waterway, Plaquemine-Morgan City alternate route, Louisiana	$231,871	$539,250	$411,800	$2,422,567	$932,371	[1] $1,011,250
FLOOD CONTROL						
Amite River and tributaries, Louisiana	0	0	297,526	297,526	21,800	160,800
Memphis, Wolf River and Nonconnah Creek, Tenn.	191,927	398,974	441,948	447,021	404,219	[2] 424,151
Flood control, Mississippi River and tributaries	981,910	4,101,954	6,165,927	14,482,853	2,977,590	4,553,590
Basin total	1,405,708	5,040,178	7,317,201	17,649,967	4,335,980	6,149,791

[1] $525,000 transferred from project on a permanent basis.
[2] $118,000 transferred from project on a permanent basis.

Middle Atlantic Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Inland Waterway, Delaware River to Chesapeake Bay, Del. and Md. (Summit Bridge)	0	0	$59,116	$807,916	$5,000	$285,210
Delaware River, Philadelphia to Trenton (interim 35-foot project)	0	0	482,324	3,874,251	20,000	1,610,814
New York and New Jersey Channels, N. Y. and N. J.	[1] 0	[1] 0	55,439	346,225	0	[2] 0
Norfolk Harbor, Va. (40-foot channel and Craney Island anchorage)	0	0	0	0	0	0
Waterway coast at Virginia, Chesapeake Bay to Chincoteague Bay	0	0	88,539	250,454	87,900	159,800
ALTERATION OF BRIDGES						
Norfolk-Portsmouth Belt Line RR. bridge, Virginia	$5,640	$730,423	48,458	1,604,647	0	1,360,600
Staten Island Rapid Transit Ry. Co. bridge, New York and New Jersey	5,098	904,058	93,172	1,930,690	0	1,500,000
FLOOD CONTROL						
Cumberland, Md., and Ridgeley, W. Va.	0	638,376	71,942	2,003,437	0	1,210,121
Endicott, Johnson City, and Vestal, N. Y.	0	0	372,104	836,837	0	266,000
Allentown, Pa.	0	0	0	0	0	0
Bear Creek Reservoir, Pa.	5,137	151,516	448,366	1,360,264	25,000	610,616
Dyberry Reservoir, Pa.	0	0	97,777	407,383	13,000	318,140
Prompton Reservoir, Pa.	0	0	371,802	418,597	12,000	366,740
Stillwater Reservoir, Pa.	[3] 0	5,501	42,345	278,608	0	[4] 0
Basin total	15,875	2,429,874	2,231,384	14,119,309	162,900	7,688,041

[1] In addition to status of project funds shown, $741,517 were obligated and expended from funds loaned to this pro ect.
[2] $490,000 transferred to project on a permanent basis.
[3] In addition to status of project funds shown, $74,025 were obligated from funds loaned to this project.
[4] $79,000 transferred to project on a permanent basis.

Missouri Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Missouri River, Kansas City to Omaha	$19,267	$54,997	$258,463	$668,666	0	[1] 0
Missouri River, Omaha to Sioux City	71,961	220,140	743,619	2,102,679	0	[2] 200,000
Missouri River, Kansas City to mouth	0	0	208,203	643,094	0	[3] 0
FLOOD CONTROL						
Little Sioux River, Iowa	130,488	182,720	465,027	1,416,821	$375,000	$508,000
Missouri River agricultural levees	[4] 0	[4] 0	664,604	1,319,968	340,000	480,000
Missouri River, Kenslers Bend Nebr., to Sioux City, Iowa	4,273	39,445	102,387	548,471	0	0
Abilene, Kans	0	0	187,338	187,338	37,800	152,800
Ottawa, Kans	0	0	0	0	30,000	30,000
Salina, Kans	0	0	151,040	273,609	13,984	207,000
Topeka, Kans	0	0	193,363	325,620	134,300	134,300
Tuttle Creek Reservoir, Kans	1,087,548	4,116,724	3,358,842	5,719,262	2,520,000	[5] 3,609,000
Pomme de Terre Reservoir, Mo	0	0	54,793	430,277	0	[6] 0
Lower Heart River, N. Dak	0	0	0	0	0	0
Sioux Falls, S. Dak	4,870	124,407	48,320	290,256	0	0
Sheridan, Wyo	0	0	0	0	0	0
MULTIPLE PURPOSE INCLUDING POWER						
Fort Peck (2d powerplant), Mont	[7] 0	[7] 0	64,833	369,672	0	[8] 0
Garrison Reservoir, N. Dak	626,295	2,163,778	8,074,719	10,355,618	5,879,595	[9] 7,873,578
Oahe Reservoir, S. Dak. and N. Dak	2,177,365	9,360,237	3,804,847	14,605,042	1,250,000	[10] 8,534,000
Basin total	4,122,067	16,262,448	18,380,398	39,256,394	10,580,679	21,728,978

[1] $497,000 transferred to project on a permanent basis.
[2] $750,000 transferred to project on a permanent basis.
[3] $450,000 transferred to project on a permanent basis.
[4] In addition to status of project funds shown, $48,981 were obligated and $46,067 expended from funds loaned to this project.
[5] $1,470,000 transferred from project on a permanent basis.
[6] $120,000 transferred to project on a permanent basis.
[7] In addition to status of project funds shown, $42,900 were obligated and $33,000 expended from funds loaned to this project.
[8] $125,000 transferred to project on a permanent basis.
[9] $945,000 transferred from project on a permanent basis.
[10] $2,476,000 transferred from project on a permanent basis.

New England Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Boston Harbor, Mass. (40-foot anchorage)	0	0	$10,775	$271,170	0	0
Fall River Harbor, Mass. (35-foot midbay channel)	0	0	13,470	315,698	0	0
Mystic River, Mass. (35-foot project)	[1] 0	[1] 0	122,805	228,593	$121,300	$121,300
Weymouth Fore River, Mass	0	0	398,414	408,339	412,000	412,000
Great Lakes-Hudson River Waterway, N. Y	$8,873	$8,873	46,308	46,308	44,100	44,100
Jones Inlet, N. Y	0	0	0	0	0	0
FLOOD CONTROL						
Thomaston Reservoir, Conn	0	28,114	639,733	662,923	0	377,200
Adams, Mass	753,520	893,514	114,849	174,645	0	0
Barre Falls Reservoir, Mass	16,672	206,111	7,505	750,511	0	285,500
Buffumville Reservoir, Mass	57,199	70,067	93,650	633,711	0	[2] 4,100
East Brimfield Reservoir, Mass	0	0	716,003	741,933	190,000	312,300
Hodges Village Reservoir, Mass	0	0	342,803	352,076	0	[3] 95,000
North Adams, Mass	[4] 0	81,322	166,023	771,562	0	324,000
Worcester diversion, Mass	0	0	684,780	689,439	0	525,800
Otter Brook Reservoir, N. H	[5] 0	95,131	13,828	538,228	0	263,600
Woonsocket, R. I	15,136	132,720	785,670	809,630	0	450,000
Ball Mountain Reservoir, Vt	131,025	156,388	1,404,532	1,471,426	666,800	[6] 917,000
North Hartland Reservoir, Vt	0	0	0	0	3,700	3,700
North Springfield Reservoir, Vt	0	0	229,496	247,409	0	[7] 0
Townshend Reservoir, Vt	0	0	72,695	336,973	0	0
Basin total	982,425	1,672,240	5,863,339	9,450,574	1,437,900	4,135,600

[1] In addition to status of project funds shown, $273,707 were obligated and $143,969 were expended from funds loaned to this project.
[2] $188,000 transferred to project on a permanent basis.
[3] $100,000 transferred to project on a permanent basis.
[4] In addition to status of project funds shown, $188,169 were obligated from funds loaned to this project.
[5] In addition to status of project funds shown, $17,932 were obligated from funds loaned to this project.
[6] $360,000 transferred from project on a permanent basis.
[7] $80,000 transferred to project on a permanent basis.

North Pacific Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Chetco River, Oreg	0	0	$213,422	$213,422	0	0
Bellingham Harbor, Wash	0	0	386,050	386,050	$335,000	$335,000
Blaine Harbor, Wash	0	0	106,406	106,406	40,000	40,000
Everett Harbor and Snohomish River, Wash	0	0	16,040	109,505	10,000	10,000
Grays Harbor and Chehalis River, Wash.:						
(a) West Haven breakwater	0	0	55,788	55,788	0	0
(b) Bay City Channel, West Haven Cove, breakwater and Point Chehalis levee	$2,719	$2,719	2,649	2,649	0	0
Port Angeles Harbor, Wash	0	0	0	0	0	0
Shilshole Bay, Wash	0	0	173,364	355,164	157,700	157,700
Willapa River and Harbor and Naselle River, Wash	0	0	115,540	115,564	35,000	35,000
FLOOD CONTROL						
Eagle Gorge Reservoir, Wash	0	0	403,155	2,633,281	1,000,000	1,000,000
Basin total	2,719	2,719	1,472,414	3,977,829	1,577,700	1,577,700

Ohio Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Markland locks and dam, Indiana, Kentucky, and Ohio	$51,859	$328,644	$733,314	$1,094,486	0	0
Greenup locks and dam, Kentucky and Ohio	[1] 0	276,766	163,772	4,734,116	$40,000	$1,535,000
Lock and dam 41, Indiana and Kentucky	[2] 0	[2] 0	104,118	590,967	0	[5] 0
New Cumberland lock and dam, Ohio and West Virginia	1,783,895	5,269,407	3,360,580	7,810,551	2,225,000	[6] 4,838,000
Dam 8, Monongahela River, Pa	0	0	0	0	0	0
Hildebrand lock and dam, West Virginia	110,601	575,640	81,389	1,167,353	0	0
FLOOD CONTROL						
New Harmony Bridge, Ill. and Ind	0	0	310,528	310,528	0	210,000
Mansfield Reservoir, Ind	0	0	150,439	231,186	0	[7] 0
Buckhorn Reservoir, Ky	0	0	187,398	408,998	0	[8] 0
Catlettsburg, Ky	[3] 0	[3] 0	31,113	230,206	0	[9] 0
Rough River Reservoir and Channels, Ky	42,528	184,358	285,515	498,419	81,000	[10] 81,000
Dillon Reservoir, Ohio	571	1,411	276,302	1,163,941	0	0
Roseville, Ohio	0	0	0	0	0	0
Allegheny River Reservoir, Pa	0	0	0	0	0	0
Bradford, Pa	216,987	300,887	974,716	1,502,161	950,000	[11] 1,275,000
Sutton Reservoir, W. Va	[4] 0	[4] 0	398,639	1,313,152	0	[12] 0
MULTIPLE PURPOSE						
Barkley Dam, Ky. and Tenn	0	0	218,355	521,127	0	0
Cheatham lock and dam, Tennessee	379,522	2,599,495	254,449	1,472,490	100,000	400,000
Old Hickory lock and dam, Tennessee	1,325,516	3,506,192	965,554	1,648,543	540,000	[13] 820,000
Basin total	3,911,479	13,042,800	8,496,181	24,698,224	3,936,000	9,159,000

[1] In addition to status of project funds shown, $814,953 were obligated from funds loaned to this project.
[2] In addition to status of project funds shown, $15,600 were obligated and $7,800 expended from funds loaned to this project.
[3] In addition to status of project funds shown, $72,673 were obligated and $54,500 expended from funds loaned to this project.
[4] In addition to status of project funds shown, $294,216 were obligated and $152,736 expended from funds loaned to this project.
[5] $133,000 transferred to project on a permanent basis.
[6] $1,200,000 transferred from project on a permanent basis.
[7] $124,000 transferred to project on a permanent basis.
[8] $150,000 transferred from project on a permanent basis.
[9] $139,000 transferred to project on a permanent basis.
[10] $225,000 transferred from project on a permanent basis.
[11] $150,000 transferred from project on a permanent basis.
[12] $630,000 transferred to project on a permanent basis.
[13] $102,000 transferred from project on a permanent basis.

Rio Grande and Gulf Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Brazos Island Harbor, Tex	0	0	19,701	$266,781	$19,000	$104,000
Galveston Harbor and Channel, Tex. (Galveston seawall)	0	0	0	0	0	0
Houston Ship Canal, Tex	$3,075	$29,101	44,539	260,122	33,075	189,101
Port Aransas-Corpus Christi Waterway, Tex. (36-foot project)	0	0	262,448	262,448	0	257,000
Sabine-Neches Waterway, Tex	0	0	50,013	661,231	22,000	207,000
ALTERATION OF BRIDGES						
Bridge relocation, Corpus Christi, Tex	989,690	1,489,690	71,423	1,719,910	74,690	1,559,690
FLOOD CONTROL						
Abiquiu Dam and Reservoir (Chamita Reservoir), N. Mex	220,366	230,980	141,131	165,877	0	[1] 0
Albuquerque diversion channel, New Mexico	0	0	0	0	0	0
Artesia diversion channel, New Mexico	0	0	0	0	0	0
Buffalo Bayou and tributaries, Texas	0	0	1,108,524	2,040,869	3,521	1,372,521
San Antonio Channel improvement, Texas	0	0	501,545	504,480	495,395	[2] 495,395
Basin total	1,290,066	2,065,657	2,199,324	5,881,718	1,017,753	4,992,943

[1] $235,000 transferred to project on a permanent basis.
[2] $225,000 transferred from project on a permanent basis.

Tennessee Valley Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
FLOOD CONTROL						
Lake City (Coal Creek), Tenn	0	0	0	0	0	0
Basin total	0	0	0	0	0	0

Upper Mississippi Basin

Project	June 30, 1956		Apr. 30, 1957		June 30, 1957 (estimated)	
	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance	Unobligated balance	Unexpended balance
NAVIGATION						
Mississippi River between Missouri River and Minneapolis: Rectification of damages	$4,904	$4,904	$858	$358	0	0
Mississippi River, between Ohio and Missouri Rivers: Regulations works	0	0	20,715	33,279	0	[1] 0
St. Anthony Falls extension, Minnesota	373,443	526,857	542,603	569,038	$329,400	[2] $466,400
ALTERATION OF BRIDGES						
Alteration of Wabash RR. Co. bridges at Meredosia of Valley City, Ill.	87,516	107,641	529,341	570,107	487,900	497,900
FLOOD CONTROL						
East St. Louis and vicinity, Illinois	702,140	852,523	1,102,399	1,626,751	1,063,900	[3] 1,141,200
Wilson and Wenkel and Prairie du Pont drainage and levee districts, Illinois	203,576	268,902	203,080	576,452	110,600	190,200
Wood River drainage and levee district, Illinois	[4] 0	[4] 0	357,115	615,706	194,400	258,800
Coralville Reservoir, Iowa	1,557,885	2,954,236	1,242,627	2,213,898	661,500	[5] 894,500
Muscatine, Iowa	0	0	264,037	264,037	174,900	264,900
Upper Iowa River, Iowa	0	0	120,000	346,000	219,300	327,300
Canton, Mo	0	0	180,656	180,656	158,000	[6] 158,000
Cape Girardeau (reach No. 2), Mo	301,681	337,593	321,274	639,914	270,300	386,400
Basin total	3,231,145	5,052,656	4,884,705	7,636,696	3,670,200	4,585,600
Grand total, all basins	22,515,934	68,511,283	83,537,260	183,658,506	43,301,381	90,919,389

[1] $50,000 transferred to project on a permanent basis.
[2] $90,000 transferred from project on a permanent basis.
[3] $100,000 transferred from project on a permanent basis.
[4] In addition to status of project funds shown, $161,359 were obligated and $83,800 were expended from funds loaned to this project.
[5] $150,000 transferred from project on a permanent basis.
[6] $60,000 transferred from project on a permanent basis.

United States Department of the Interior Bureau of Reclamation, Construction and Rehabilitation, Upper Colorado River Basin Fund and General Investigations

Unobligated funds Apr. 30, 1957, and Apr. 30, 1957, field estimates of unobligated funds at June 30, 1957

State and project	Unobligated funds Apr. 30, 1957	Apr. 30, 1957, field estimates of unobligated funds at June 30, 1957
Arizona:		
Gila project	$825,243	$447,000
Yuma auxiliary project	9,853	----------
Arizona-California: Palo Verde diversion project	1,193,316	1,157,000
Arizona-California-Nevada: Parker-Davis project	289,135	272,000
Arizona-Nevada: Boulder Canyon project	1,045,822	1,052,000
California:		
Cachuma project	222,031	43,000
Central Valley project	1,777,683	300,000
Santa Maria project	1,536,458	1,327,000
Solano	2,188,777	1,623,000
Ventura River project	1,127,244	----------

Unobligated funds Apr. 30, 1957, and Apr. 30, 1957, field estimates of unobligated funds at June 30, 1957—Continued

State and project	Unobligated funds Apr. 30, 1957	Apr. 30, 1957, field estimates of unobligated funds at June 30, 1957
Colorado:		
Collbran project	$753,383	$375,000
Colorado-Big Thompson project	132,915	15,000
Idaho:		
Little Wood River project		
Michaud Flats project	746,276	
Minidoka project, North Side pumping division	364,051	
Palisades project	399,547	119,000
Rathdrum Prairie project, Hayden Lake unit	472,097	297,000
Montana-North Dakota: Fort Peck project	83,772	60,000
Nevada: Boulder City	3,358	
New Mexico:		
Carlsbad project, Alamogordo Dam spillway enlargement	1,374	1,374
Middle Rio Grande project	500,019	126,000
North Dakota: Buford-Trenton project	153,176	151,174
Oklahoma: Washita Basin project	56,795	25,000
Oregon:		
Crooked River project		
Deschutes project, North unit	211,639	50,000
Rogue River project, Talent division	541,586	
Savage Rapids Dam, fish protective facilities	185,867	147,000
Wapinitia project		
Utah:		
Provo River project	256,208	
Weber Basin project	3,930,767	2,411,000
Washington:		
Chief Joseph Dam project, Foster Creek division	216,790	50,000
Columbia Basin project	1,240,431	
Yakima project, Kennewick division	100,504	
Yakima project, Roza division	625,728	300,000
Wyoming:		
Eden project	168,017	
Shoshone project	362,045	320,000
Drainage and minor construction program	1,247,729	555,820
Rehabilitation and betterment of existing projects	1,023,058	405,076
Loan program—Distribution systems	16,100,000	16,100,000
Commissioner's Office, Denver	2,114,599	990,000
Subtotal (exclusive of MRB)	42,207,293	28,719,444
Missouri River Basin project:		
Ainsworth unit, Nebraska		
Bostwick division, Nebraska-Kansas	1,319,296	200,000
Cedar Bluff unit, Kansas	24,516	20,000
Farwell unit, Nebraska		
Frenchman-Cambridge division, Nebraska	541,544	170,000
Glendo unit, Wyoming	736,583	325,000
Hanover-Bluff unit, Wyoming	109,201	59,000
Helena Valley unit, Montana	570,242	200,000
Kirwin unit, Kansas	113,325	
Lower Marias unit, Montana	45,301	5,132
Owl Creek unit, Wyoming	581,272	439,880
Rapid Valley unit, South Dakota	25,262	17,000
Sargent unit, Nebraska	142,437	20,000
St. Francis unit, Colorado-Kansas	10,653	10,500
Shoshone extensions unit, Wyoming		
Transmission division, various States	2,497,471	1,511,391
Webster unit, Kansas	301,946	
Yellowtail unit, Montana-Wyoming	3,522,482	3,522,482
Drainage and minor construction program	553,200	203,300
Missouri River Basin investigations	701,358	69,449
Other Department of the Interior agencies		
Subtotal, Missouri River Basin	11,796,089	6,773,134
Grand total, construction and rehabilitation	54,003,382	35,492,578
Colorado River storage project:		
Flaming Gorge unit, Utah	176,822	
Glen Canyon unit, Arizona-Utah	2,408,705	800,000
Navajo unit, New Mexico	449,193	45,000
Transmission division	6,063	
Advance planning	232,312	
Total, Upper Colorado River Basin fund	3,273,095	845,000
General investigations (total)	1,233,904	310,000

THURSDAY, MAY 2, 1957.

PLEASANT VALLEY PROJECT INVESTIGATION, BUREAU OF RECLAMATION

WITNESSES

S. W. CROSTHWAIT, ASSISTANT COMMISSIONER
E. G. NIELSEN, ASSISTANT COMMISSIONER
A. R. GOLZÉ, CHIEF, DIVISION OF PROGRAM COORDINATION AND FINANCE
N. B. BENNETT, JR., CHIEF, DIVISION OF PROJECT DEVELOPMENT
F. E. DOMINY, CHIEF, DIVISION OF IRRIGATION

Mr. RABAUT. We have with us this morning Mr. Nielsen, Assistant Commissioner; Mr. Crosthwait, Assistant Commissioner, Mr. Golzé, Chief, Division of Program Coordination and Finance, Mr. Bennett, Chief of the Division of Project Development and Mr. Dominy, Chief of the Division of Irrigation.

Mr. RABAUT. You are appearing here in connection with the Pleasant Valley project. We have received your letter requesting committee approval of the shift in investigation funds this year to finance the investigation of the Pleasant Valley unit. The total cost of the investigation would be $217,000 and $74,500 is the cost for this year. The balance would be in 1958.

At this point in the record we will insert the letter received.

(The letter follows:)

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., April 11, 1957.

HON. CLARENCE CANNON,
Chairman, Committee on Appropriations,
House of Representatives, Washington 25, D. C.

DEAR MR. CANNON: At the hearings by the Subcommittee on Public Works on April 8, Chairman Rabaut requested we seek committee approval for the financing required for the investigation of the Mountain Sheep-Pleasant Valley unit for fiscal year 1957. He requested also that we show from where the funds would be obtained.

We estimate that the total cost of investigating the unit will be $217,000. Fiscal year 1957 fund requirements will amount to $84,500 of which amount approximately $10,900 has already been expended, for preparation of the special report dated October 1956. For the remainder of the fiscal year, then, there is involved approximately $73,600. It is proposed that the necessary funds for fiscal year 1957 be secured by utilizing (1) $7,500 now programed for the Snake Narrows project and not required to complete that study, (2) $27,000 of funds now programed for use in the Upper and Middle Snake River Basin study, which can be made available without detriment to completion of that item, because to a large extent data developed under the Pleasant Valley project program will subsequently be incorporated in the basin report, and (3) the balance of $50,000 will be obtained from the Central Valley Basin survey and the investigation of the Lost River storage unit of the Klamath project.

Although the chairman of the subcommittee did not specifically request the item, we believe it advisable to indicate that the fund requirement for fiscal year 1958 would amount to approximately $132,500. That item is not now contained in the budget estimate before the committee. It is difficult at this time to state exactly how the work would be financed, because that to a large extent should depend upon the total appropriation for the investigations program for fiscal year 1958 and on the situation pertaining to each item in the program on July 1.

The bids for the drilling required at the High Pleasant Valley site were opened April 2. The low bidder was approximately 13 percent under the engineers' estimate.

We would appreciate your approval or advice at an early date.

Sincerely yours,

FRED G. AANDAHL,
Assistant Secretary of the Interior.

Mr. RABAUT. Please describe this project and the nature of the proposed investigation. Who is going to do that?

Mr. NIELSON. I will ask Mr. Bennett to do that.

Mr. BENNETT. Mr. Chairman, the High Pleasant Valley investigation spoken of in the letter of April 11 is an investigation to determine the feasibility of constructing a dam at a site on the Snake River some miles above the confluence of the Snake and Salmon Rivers. We prepared a brief reconnaissance report last summer which indicated that the project would likely be feasible if we built a dam with a water surface of about 1,685 feet above sea level. That water surface would be of sufficient height so that it would inundate the Hells Canyon site. The Hells Canyon site is 1 of those 3 sites on which the Federal Power Commission has granted a license to the Idaho Power Co.

Mr. BUDGE. Could I ask a question?

Mr. RABAUT. Would you like to make a statement first?

Mr. BENNETT. As the Chair feels proper.

Mr. RABAUT. You may finish your statement first.

Mr. BENNETT. I think I am practically through, Mr. Chairman.

The intent of the investigation is to determine the feasibility of a high dam at that site. Involved in such a determination will be drilling of the dam site, taking additional topography of the site, making the usual water supply studies, power studies, and cost estimates that go into that work and then determining the feasibility.

Mr. RABAUT. I have two more questions and then I will turn you over to my colleague.

EFFECT ON LICENSE APPLICATION OF PACIFIC NORTHWEST POWER CO.

What effect will this action have on the application of the Pacific Northwest Power Co. which is pending before the Federal Power Commission?

Mr. BENNETT. I am not sure we can give a complte answer to that, Mr. Chairman. The Secretary of the Interior has written to the Federal Power Commission advising them that we are making such an investigation. Whether the Commission will go ahead and grant a license, or whether they will wait until they see the results of our study, we simply do not know.

Mr. RABAUT. How much time would you think it would take before you think the situation would come to a condition whereby the Commission would know what to do?

Mr. BENNETT. We are hopeful that if we can very soon go ahead with that part of the work which is now stopped, that we can have a report shortly after the first of the year.

EFFECT ON SITES LICENSED TO IDAHO POWER CO.

Mr. RABAUT. All right. If constructed, what effect would the project have on sites previously licensed to the Idaho Power Co. at Brownlee, Oxbow, and Hells Canyon?

Mr. BENNETT. Construction of a dam at the height we are contemplating would not affect Brownlee or Oxbow.

Mr. RABAUT. They are the ones that are higher up the river?

Mr. BENNETT. Yes. It would inundate the Hells Canyon site.

Mr. RABAUT. Hells Canyon and then how far downstream from Hells Canyon is this Pleasant Valley site?

Mr. BENNETT. Hells Canyon site is approximately 250 river miles. Pleasant Valley is approximately 212 river miles. That would be about 38 miles.

Mr. RABAUT. I am now through and ready to turn you over to my colleague. Do you have any questions?

Mr. MAGNUSON. I have one or two.

Mr. Bennett, Secretary Seaton has indicated a couple of times—if not flatly, at least by inference—that he has requested the Federal Power Commission to withhold decision on the application of the Northwest Power Co. to build Pleasant Valley and Mountain Sheep until your survey has been completed. What do you know about that situation?

Mr. NIELSEN. I think the Federal Power Commission letter is less than a request. It is that the Federal Power Commission proposes to make an investigation. It stops short of a request.

Mr. MAGNUSON. That is my understanding. Still, he says at one time he hoped that the Federal Power Commission "will honor our request for a reasonable time within which to complete a study of the Pleasant Valley Dam site."

Mr. NIELSEN. From my recollection of the letter, I would say the use of the word "request" is inadvertent.

Mr. MAGNUSON. I think the text of the letter itself does not support the statement that he has asked time.

Is it the intention of the Department to ask the Federal Power Commission specifically to withhold determination until the survey is completed? I understand that the Federal Power Commission hearings are completed now and they expect to rule on the application sometime this summer.

Mr. NIELSEN. I do not know.

Mr. MAGNUSON. Whereas your survey will not be completed until the end of the year, will it?

Mr. NIELSEN. That is right. I do not know the intent of the Federal Power Commission.

Mr. MAGNUSON. Do you know the intent of the Interior Department?

Mr. NIELSEN. I have no knowledge that the Department is going to make a specific request.

Mr. MAGNUSON. The Pleasant Valley Dam that you are referring to here, Mr. Bennett, while it is called a high dam, it is not, and there also has been some reference to a higher Pleasant Valley Dam; has there not?

Mr. BENNETT. Yes, sir; we have given some consideration to a dam with water surface higher than 1,685, but our preliminary paperwork in that connection does not look too good.

Mr. MAGNUSON. What will be the storage of the higher dam?

Mr. BENNETT. I do not know. I do not have that answer.

Mr. MAGNUSON. The so-called high Pleasant Valley Dam with a half-million acre-feet?

Mr. BENNETT. You mean for flood control?

Mr. MAGNUSON. Yes.

Mr. BENNETT. I see no reason why it would be anything less than what we are now considering. It is 1,380,000 acre-feet.

Mr. MAGNUSON. How many of the Idaho Power Commission's licensed three dams would be flooded out?

Mr. BENNETT. One.

Mr. MAGNUSON. That would be flooded out by the high Pleasant Valley proposal?

Mr. BENNETT. The higher Pleasant Valley proposal would probably put water up on Oxbow.

Mr. MAGNUSON. Both Hells Canyon and Oxbow would be flooded out if the so-called higher Pleasant Valley Dam were constructed?

Mr. BENNETT. Whether it would be such as to make Oxbow site completely useless, I do not know. It would certainly come up on the proposed dam.

Mr. MAGNUSON. You know of no intention on the part of the Interior Department to make any more specific representation to the Federal Power Commission to hold back on this decision until your survey is completed?

Mr. BENNETT. I do not have any information about it.

Mr. MAGNUSON. If the Federal Power Commission should grant the Pacific Northwest its requested license, will not this survey be sort of a beside-the-point thing?

Mr. NIELSEN. If the Federal Power Commission were to do so, I imagine that our end product would not be very valuable.

Mr. MAGNUSON. I think that is all, Mr. Chairman.

NEED FOR INVESTIGATION QUESTIONED

Mr. JENSEN. I have a statement that I would like to express at this time.

As everybody knows, there has been a little written, said, and discussed about this matter. I have come to the conclusion that I must be unalterably opposed to the proposed transfer and use of any funds for the proposed Pleasant Valley study by the Bureau of Reclamation. The record is clear that there is no irrigation whatsoever involved in the proposed project and therefore the Bureau of Reclamation has absolutely no business or responsibility for investigating this stretch of the Snake River. The Bureau has already wasted nearly $600,000 on these nonirrigation investigations in this stretch of the Snake River. With the tremendous pressure being exerted by the taxpayers all over the Nation for a cut in Federal spending, this is certainly no time for wasting an additional quarter of a million dollars on further useless investigations.

The Pleasant Valley Dam, as presently proposed by the Bureau of Reclamation, would inundate the Hells Canyon Dam site now under

license to the Idaho Power Co. This license cannot be abrogated or changed except through joint approval of the company and the Federal Power Commission. I cannot conceive of the Congress passing any legislation to abrogate this legal contract.

The Bureau's and Secretary Seaton's expressed basis for proposing this Federal Pleasant Valley project was additional flood-control storage and power. However, the record is very clear that this stretch of the Snake River is the best controlled major river in the Pacific Northwest and only contributes around 5 percent of the peak flood flows of the lower Columbia River. Witness after witness has testified before the Federal Power Commission and before this committee that, in order to get the maximum utilization for future irrigation and economic development in the Snake River Basin in Idaho, the logical and best place for additional storage is on the tributaries and headwaters of the Snake River above the Hells Canyon Gorge.

The record is also clear that, to get effective flood control for the lower Columbia River, storage must be provided on those other rivers or tributaries that contribute 95 percent of the peak floods.

The real and primary reason and interest of the Bureau in the Pleasant Valley Dam is the desire to have a project to use in producing a basin account for subsidizing costly irrigation developments. This is clearly evident in the Bureau's special report of October 1956, wherein it was stated that:

> Pleasant Valley * * * would provide important assistance in the form of a financial contribution to future irrigation projects in the Snake River Basin.

However, such a statement has no foundation in fact. In the first place, there is no authority in law for such financial contribution, nor is there any reason to believe the Congress would authorize and appropriate money to construct a Federal project at Pleasant Valley.

Secondly, the average annual electric energy to be generated at the Federal Pleasant Valley Dam would return at present Bonneville rates a net revenue of $5,708,000, or less than 5 percent of the revenue needed to pay out the Federal investment allocated to power over a 50-year period. Even assuming that the power rates could be increased to permit pay out in 50 years, there would be no surplus revenue to subsidize high-cost irrigation developments during this 50-year period.

Does it appear reasonable to ask the taxpayers of the Nation to put up money 50 years in advance of any repayment, with a compound-interest cost increasing the taxpayers' subsidy by $243 for every $100 of interest-free money provided initially? The answer is obviously "No."

To my way of thinking, it is the height of stupidity to even think the taxpayers are willing to see the Federal Government expend $200 million more than the cost of the alternate private projects for an additional 800,000 acre-feet of control storage when the annual value of such storage would not equal one-sixth of the interest cost on the extra costs.

I have always supported water and soil conservation, which properly begins in the headwaters of any river basin. Future economic development in southern Idaho is completely dependent upon such upstream storage development.

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I believe that the honest engineers in the Bureau, if they were allowed to speak, would to a man subscribe to such upstream development as the only proper program for future irrigation and economic development in Idaho.

I must insist that the Bureau be denied the use of any funds to continue this unwarranted and useless investigation.

If anyone across the table has an answer to that statement, I will be glad to listen.

Mr. NIELSEN. I would not want to respond to that cold, Mr. Jensen.

Mr. JENSEN. You can respond to it in the record, if you like.

Mr. NIELSEN. I think I would like to take that up with the office.

Mr. JENSEN. All right.

Mr. EVINS. The gentleman may expand at this point in the record, the answer to be supplied later, following Mr. Jensen's statement.

Mr. FENTON. Mr. Chairman, as you know, this is my first year on this subcommittee, but I have a brief statement I would like to make now.

STATEMENT OF CONGRESSMAN TABER

Mr. Taber was unable to attend this hearing today due to having to be present at another subcommittee meeting. As Mr. Taber feels rather strongly that this whole proposed Pleasant Valley investigation is an absurd waste of the taxpayers' money, he has requested me to read the following statement into the record at this point:

"There is not one single, solitary reason why funds appropriated for the investigation of the potential, bona fide irrigation projects should be diverted for additional studies of a stretch of the Snake River that has absolutely no irrigation potential. As a matter of fact, I flatly oppose the use of any funds by the Bureau for continuation of the Pleasant Valley investigation. There is no justification whatsoever for the construction of the proposed Federal Pleasant Valley Dam. The Department of the Interior, in a recent release, stated that the investigation currently underway was to determine the feasibility of the multipurpose Pleasant Valley Dam as a possible substitute for a dam as an exclusive, hydroelectric development.

"This is not in accord with the facts, as all multipurposes inherent in the proposed Federal project are also inherent, to a greater or lesser degree, in the alternate project to be constructed at no cost to the taxpayer. Additional flood-control storage space amounting to 800,000 acre-feet is the only aspect of the proposed Federal Pleasant Valley project that is greater than the alternate private projects. The record is very clear that this stretch of the Snake River is the best controlled river in the Pacific Northwest. It contributes only about 5 percent of the peak flood flow of the lower Columbia River. Effective flood control for the lower Columbia River requires storage on most of the tributaries that contribute the other 95 percent of the flood flow. It is absurd in the extreme to even think of spending hundreds of millions of dollars of the taxpayers' money to provide flood-control storage where the added flood-control value would only be about one-sixth of the interest cost alone on the interest cost of the Federal projects over the alternate private projects. Any additional storage in the Snake River Basin should be constructed upstream, above points of consumptive use, where it could provide needed local flood-control protection and irrigation use.

At the same time, it would give the same flood-control value for the lower Columbia River as would the proposed Federal Pleasant Valley Dam which is below the point of consumptive use. No justification exists for the proposed transfer of investigation funds covering upstream areas of potential irrigation development in southern Idaho. This is the area whose future economic growth is dependent on proper development and use of water resources and to develop storage and priority to water below the area of consumptive use is unthinkable.

Mr. RABAUT. Do the witnesses want to respond to that statement?

Mr. NIELSEN. No, sir.

Mr. RABAUT. Do you want to respond in the record later?

Mr. FENTON. This is Mr. Taber's statement that I read, Mr. Chairman.

Mr. NIELSEN. I think we might want to read it over carefully, and then if we find any comment we want to make we will do it.

Mr. RABAUT. Permission is granted to respond to it in the record.

(The following was supplied by the Department of Interior:)

Upon further consideration of this matter, it has been deemed unnecessary to comment further at this time.

Mr. RABAUT. Mr. Budge?

EFFECT ON HELLS CANYON SITE

Mr. BUDGE. Mr. Nielsen, as I understood your statement a few minutes ago, if the Pleasant Valley Dam that you are now contemplating were to be constructed, it would flood out the lowest of the already licensed dams on that river, namely, at this so-called Hells Canyon site?

Mr. NIELSEN. It would flood out the site; yes, sir.

Mr. BUDGE. It would also flood out the site for the Federal project proposed in legislation now before the Congress, would it not? In other words, the high Hells Canyon?

Mr. NIELSEN. They both use essentially the same Hells Canyon site.

Mr. BUDGE. The private project which has been licensed or the Federal project which is contemplated in the legislation pending before the Congress; is that right?

Mr. NIELSEN. That is correct.

Mr. BUDGE. The legislation to provide for the construction of a Federal dam at that site was voted out of the Senate Interior Committee on Tuesday last. It is scheduled to be on the floor of the Senate on the 20th of this month. We assume that any legislation that is pending before the Congress has a chance of passing. What would be the excuse for spending this money if that legislation were passed by the Congress?

Mr. NIELSEN. If it were passed by the Congress?

Mr. BUDGE. Yes.

Mr. NIELSEN. Obviously if the legislation were passed our investigation of the high Pleasant Valley would not be very fruitful.

Mr. BUDGE. Would it not be wise to wait until that legislation has been disposed of before further funds are expended which would be, as you say, "not fruitful"?

Mr. NIELSEN. I think you would have to weigh the possibilities in each circumstance. That is, in almost any dam site there is always some degree of possibility of development. There is always some-

thing cooking on every dam site. If Hells Canyon looked as if it were to ripen, I think we should take that into account as we order and direct the work; yes, sir.

Mr. BUDGE. You want us to conclude, do you, that the Bureau has reached the decision that the legislation was not going to be enacted in Congress?

Mr. NIELSEN. No, that decision is not for us.

Mr. BUDGE. I am just wondering why you should proceed with this investigation at this time in view of the positive action which has been taken in the Senate on this legislation.

Mr. NIELSEN. That positive action has been taken only very recently, of course. This proposal started along about last September. First we went into a reconnaissance type of report and then a feasibility report.

Mr. BUDGE. That legislation to construct a dam at Hells Canyon has been introduced every year in Congress since 1948. That bill has been reported out of the Senate committee and will be on the floor in about 2 weeks. It seems to me that until that matter is resolved, we cannot very well justify proceeding with an investment which would be absolutely useless if the legislation passes the Congress.

Mr. BUDGE. Do you have any further comment on that, Mr. Nielsen? Am I correct in my analysis of it?

Mr. NIELSEN. I have no comment adverse to what you said; no, sir.

Mr. BUDGE. If the legislation for the construction of the Federal dam at Hells Canyon were approved by the Congress, then this money would have been thrown away; would it not?

Mr. NIELSEN. Well, I do not like use of the term "thrown away." It would not yield a fruitful result.

Mr. BUDGE. That is all, Mr. Chairman.

BASIS FOR DEPARTMENT REQUEST

Mr. RABAUT. Off the record.

(Discussion off the record.)

Mr. RABAUT. You have heard this general discussion which we have had off the record here, and you can see how divided we are on the whole business. If you want to make a justification as to why you want to make this study, you had better make it now.

Mr. NIELSEN. In our judgment, based upon reconnaissance studies of the Pleasant Valley site, I think there is a possibility that the high Pleasant Valley Dam may yield the best overall development presently available for that stretch of the stream.

We would like to examine that at the level of a feasibility report so we can establish that with considerably more certainly than we have in our reconnaissance report.

Mr. RABAUT. Well, in what way will it be the best? Would it be the best from the standpoint of the production of power, or what?

Mr. NIELSEN. In terms of the overall utilization of that stretch of the stream for power generation and for flood control.

Mr. RABAUT. All right; that is what we want for the record.

Off the record.

(Discussion off the record.)

Mr. NIELSEN. In my opinion, as I pointed out earlier, construction of the high Pleasant Valley Dam would inundate the others.

Mr. RABAUT. What would be the comparison in general cost, no matter who is paying the bill, of these various sites for the generation of power, and what would be the percentage of power that would be generated based upon your studies under the conditions you propose as compared to the conditions that would take place otherwise?

Mr. NIELSEN. Well, of course, our report is designed to develop that in detail. That is one of the things we would examine—the relative advantages of the different trends of development.

Mr. RABAUT. They gave these licenses out in this area, and we have not yet been told on what basis their issuance was predicated.

Mr. NIELSEN. Of course, the Federal Power Commission handled that.

Mr. RABAUT. I do not care who handled it. I want to know what benefit it is going to be to the area.

Mr. NIELSEN. I would like to make clear that our whole study goes to that stretch of the river which commences at the tailrace, the downstream site of Ox Bow Dam down to and including the Pleasant Valley site.

We will not have any reason to evaluate the economics of Ox Bow or Brownlee. We will necessarily have to take into consideration values which may be in the Hells Canyon site today.

COMPARISON OF HIGH PLEASANT VALLEY AND PLEASANT VALLEY DAMS

Mr. RABAUT. You are cognizant of the situation as to the treatment that Hells Canyon is under in the Senate, are you not?

Mr. NIELSEN. Oh, yes.

Mr. RABAUT. And you, yourself, admit that the Hells Canyon site will be inundated if High Pleasant Valley is constructed?

Mr. NIELSEN. Yes, sir; that is right.

Mr. RABAUT. Do you have any idea as to the relative conditions and cost?

Mr. BENNETT. We have some reconnaissance figures on that, Mr. Chairman, some of which I can give you right now, if you wish.

Mr. RABAUT. Suppose you give to us such information as you have, just for the purposes of the committee at this time. I know they will not be remarkably firm, but it will give us some idea of it, and also give us some idea of the amount of power that you might generate there.

Mr. BENNETT. I can give you a comparison right now.

Mr. RABAUT. All right; let us have it, for the benefit of the committee.

Mr. BENNETT. Between our high Pleasant Valley proposal and the application now before the Federal Power Commission for a Pleasant Valley dam by the Pacific Northwest Power Co., I think the salient thing you are concerned with is that the power company's proposal would have a maximum water surface at elevation 1,490. Our high Pleasant Valley Dam would be at elevation 1,685. The power company's capacity of reservoir would be 928,000 acre-feet. Our capacity would be 2,570,000.

The power company's installed generating capacity ultimately would be 864,000 kilowatts. Our ultimate installed capacity would be 1,250,000 kilowatts.

Mr. RABAUT. What were those last two figures?

Mr. BENNETT. Eighty hundred and sixty-four thousand for the power company and 1.25 million for a Federal plant. As to costs, they, of course, are not directly comparable. The July 1956 cost of the power company for their structure would be $146.3 million. Our 1956 cost, on a very reconnaissance level, would be $275 million. Both of those are without transmission costs.

If you add in transmission costs, you would add, roughly, $64 million to the power company's estimate, and roughly $35 million to our estimate.

Mr. RABAUT. What makes the difference in the transmission cost?

Mr. BENNETT. We can, by a relatively short line, tie directly into the Bonneville power system. The power company would have to build their line much farther up to their load area. Those total costs, then, for the power company, are roughly $210 million, and for the Federal plant about $309 million, about $100 million difference in the two.

Mr. RABAUT. The percentage of power is how much greater?

Mr. BENNETT. I do not have the kilowatt-hours.

Mr. RABAUT. Well, you can supply that for the record.

Mr. BENNETT. I cannot supply kilowatt-hours for the power company. We simply do not have that kind of figure, but the relationship of the kilowatt capacity installed is not quite twice. It is a relationship of 800,000 to 1.2 million, roughly.

Mr. RABAUT. It has a relationship of approximately 8 to 12?

Mr. BENNETT. We would not quite double.

Mr. BUDGE. Would the chairman yield to me?

Mr. RABAUT. Yes.

Mr. BUDGE. Of course, in all of these projects you do not figure on the installed capacity. That does not mean anything insofar as your paying for the dam is concerned. It is the kilowatt-hours which you produce from the water that goes through the generators.

Mr. BENNETT. That is correct, Mr. Budge. I can give you our kilowatt-hour production of the Federal plant which we have estimated initially at 4.12 billion kilowatt-hours. I do not have the kilowatt-hour production of the private plant.

Mr. BUDGE. That is the important figure, though; is it not?

Mr. RABAUT. How can we get such a figure?

Mr. BENNETT. It is not in their application. We have tried to get it, and have not been successful.

Mr. RABAUT. If there is a battle on, they had better make it available so we will have some information about it.

There is not any reason to hide it, is there?

Mr. BUDGE. Not so far as I know, I presumed it would be in the procedings before the Federal Power Commission.

Mr. RABAUT. What is the reason that you cannot get this information?

Mr. BENNETT. Well, I think it is a question of how you would operate your plant entirely. I am not sure that the two figures, if you had them, even, would be directly comparable at all.

Mr. BUDGE. Mr. Chairman, there is one other thing that I would like to mention here:

To begin with, it seems to me if this type of project is to be built, it has absolutely no connection with reclamation or irrigation. If it is to be built it seems to me in that it is a flood control and hydro-

electric project that it should be built by the Corps of Army Engineers. That is their historic function.

OBJECTION TO TRANSFER OF FUNDS FROM UPPER SNAKE RIVER RECLAMATION STUDIES

Secondly, I object, and I want to object very strongly, to the transfer of funds out of a truly reclamation area in the upper Snake River where studies are now being conducted by the Bureau of Reclamation to irrigate land and to provide upstream storage, to transfer that money and take it down the river for this project. I just do not like that kind of business. As I said originally, on this Snake Narrows project where they are taking money from that project to put it on this one, the report on the Snake Narrows project which is very, very important to the people in my district, was to have been completed in fiscal year 1957, and they now advise me that the report will not be completed until fiscal year 1959.

At the same time, they are taking money from that project to be used for this purpose, and I want to object to it.

Mr. RABAUT. What is the reason for the delay in the report?

Mr. BENNETT. I will have to check that, Mr. Chairman. I think I have it right here.

Mr. RABAUT. There ought to be some reason for the delay in the report on these projects here.

Mr. BENNETT. As I recall, on the Snake Narrows site I believe that is the site to which Wyoming is objecting; is it not?

Mr. BUDGE. You have $26,000 in your 1958 budget for the same purpose; and yet you are diverting funds for fiscal 1957 for the identical project, and for the identical purpose.

Mr. BENNETT. Yes, sir; we would divert $7,500 which our regional office felt would not detract at all from completing the study on the Snake Narrows project.

Mr. BUDGE. Why are you asking for $26,000 for fiscal 1958?

Mr. BENNETT. Well, I think our letter pointed out that we would require in fiscal 1958 $132,500 for this purpose.

Mr. BUDGE. But you are requesting in your 1958 budget request the sum of $26,000 for the Snake Narrows project and at the same time in the proposal set forth in the Assistant Secretary's letter under date of April 11, you propose to divert $7,500 from that same study to be used on this study at Pleasant Valley.

Mr. RABAUT. Mr. Budge, do you have a copy of this letter of the Secretary?

Mr. BUDGE. Yes, sir.

Mr. RABAUT. I just wanted to know whether you had the information or not.

They are transferring $7,500?

Mr. BUDGE. Yes; and at the same time they are requesting in our hearings here $26,000 for the same purpose in 1958.

If this investigation is going to be conducted, I certainly want to object to the funds being taken from what I deem to be a proper reclamation use in my district, and taken down the river.

Mr. RABAUT. What is the reason for this?

Mr. BENNETT. I am trying to pin it down, Mr. Chairman.

Mr. RABAUT. Trying to pin it down?

Mr. BUDGE. There is another $27,000 worth of funds taken out of the upper and middle Snake River Basin which is also in my district, and which is for a valid reclamation function.

Mr. BENNETT. I think the point that is being made here is that if the $7,500 were not moved in fiscal year 1957, it would then be available in fiscal year 1958 and the request in the budget estimate now before the committee of $26,000 might thereby be less by $7,500.

I think that is the point. Our proposal of transferring that money for 1957 is that it is not needed on that particular study in 1957. It does not affect the time of completion of the job.

In the $27,000 from the upper and middle Snake River Basin study a lot of information which we will obtain in the study of the high Pleasant Valley will be useful in completing that study. So, we do not think that it deters at all from the middle and upper Snake Basin study.

It will give us a lot of information we will need for that same report.

Mr. RABAUT. Here is $7,500 which you requested for one purpose, and you propose to use it for another, and then you stick it back in in the following year, according to your statement, and ask for it again for the original purpose, is that right?

Mr. BUDGE. And at the same time delay the completion of the report by 2 years.

Mr. RABAUT. What is that?

Mr. BUDGE. And at the same time delay the completion of the report by 2 years.

Mr. BENNETT. I think the report would be delayed whether we did or did not move the $7,500. I believe the report is being delayed for other reasons.

Mr. RABAUT. I will now yield to my colleague, Mr. Evins.

ISSUE OF HIGH DAMS VERSUS LOW DAMS

Mr. EVINS. Mr. Chairman, I want to make a few observations: The situation which has just been revealed here by the testimony reminds me of a story of a lawyer who had a good case but, perhaps, lost it because the opposition was more articulate than those in favor of the situation. It is possible in view of the very importance of this matter that certainly this study ought to go forward and be made.

For years Congress has been debating the important issue of whether to build the high Hells Canyon Dam or whether to build a series of low dams in that area. The previous administration recommended a high dam, but when the other administration came in, that action was negated and vetoed.

The Federal Power Commission has now approved a series of three low dams in the Snake River and at the same time it is advocating the advantages of a high dam.

The Congress just recently, as our colleague Mr. Budge has pointed out, has reported a bill which is soon to be debated pointing up the merits of the high dam at the Hells Canyon site.

Now, the Bureau of Reclamation has come forward with a proposal to study the overall situation and to give the Congress and the Nation additional facts which may throw a great deal of light on the defects

or advantages of the lower dams as well as the advantages of the proposed high dam.

Certainly, in view of the importance of this issue, it would seem to me that a study involving no more money than this, that this committee should approve it.

We have had testimony here that more than 4 billion kilowatt-hours in potential power could possibly be generated in that area. Now, we do not want to call any names, because we are all friends and colleagues here, but the statements have been made opposing this matter here by traditional foes of those who have proposed Hells Canyon.

Mr. BUDGE. Will the gentleman yield to me?

Mr. EVINS. Let me finish my statement. You have already had your turn.

It would seem, if the gentlemen were opposing Hells Canyon, they would favor this because it would at least slow down the Hells Canyon proposition. But, you are not only opposed to Hells Canyon, you are opposed to the transfer of funds or the use of funds that have already been appropriated. We have also heard voiced here the opposition to the Bureau of Reclamation doing the job. You find another reason to be against it. You say if it is to be done, it ought to be done by the Corps of Engineers. So, we see every avenue of opposition advanced and brought forward.

I would like to ask the gentlemen here, Mr. Nielsen, if the Commissioner of Reclamation, Mr. Dexheimer, having given study to this, has not recommended that this study be made?

Mr. NIELSEN. He has told the Secretary that the finding of these reconnaissance reports indicates that there is a possibility that the high Pleasant Valley Dam would yield the optimum development of the resources still available.

Mr. EVINS. Mr. Dexheimer has recommended it. Has Mr. Seaton, the Secretary, recommended that this study be made?

Mr. NIELSEN. I do not like to use the word "recommended," but he has cleared this after representations by the Commissioner. He has cleared us to make this study.

Mr. EVINS. And the Bureau of the Budget has also given the green light to come forward to this stage?

Mr. NIELSEN. Now, you are getting a little beyond my field of operation.

Mr. EVINS. Tell us what the facts are. The committee is interested to know just what they are. We would like to know whether the Bureau of the Budget has approved it or rejected it.

Mr. NIELSEN. The Bureau of the Budget, they tell me, has been advised that we are making this study.

Mr. EVINS. So, the Commissioner of Reclamation has recommended it, the Secretary of the Department of the Interior, Mr. Seaton, has cleared it, and the Bureau of the Budget has been advised and has not voiced any opposition?

Mr. NIELSEN. That is my understanding.

Mr. EVINS. This great agency of the Government, the Bureau of Reclamation, has done some tremendously important work. We have learned before that this construction agency built the Boulder Dam or the Hoover Dam and it has brought great benefits to the West. They are now going forward with the upper Colorado River storage

project which the President recommended, and which many on this side of the aisle have supported, and many on the other side of the aisle have opposed, although some favored it.

So, the Bureau is engaged in another very important undertaking, and in this highly important area which has been the subject of much controversy we have found opposition all along the way, and we see it voiced again here today.

The amount of money to be transferred here is very small considering the amounts or sums considered by this committee for other studies and other public works programs, is it not?

Mr. NIELSEN. Yes, sir.

Mr. EVINS. As I understand, it is your intention in regard to the funds which are proposed to be transferred here, that others would be requested for continuation of the work for which these funds would now be used.

Mr. NIELSEN. We would transfer out of other work where that transfer would not affect in any substantial degree the progress of that work.

Mr. EVINS. This proposal might well be a very happy solution to a local controversial matter. The two lower private power dams could be built under this proposal and still a savings of water and power through the lower Pleasant Valley Dam site, if ultimately approved and constructed.

Mr. NIELSEN. We think there is a good chance the high Pleasant Valley would yield the optimum development of the resources still remaining.

Mr. EVINS. And that if we continue without either the Hells Canyon or Pleasant Valley, then you will not achieve the optimum power development and other benefits in this area?

Mr. NIELSEN. We expect that would be the case.

Mr. EVINS. In other words, this would be a loss of a great part of the benefits, water wasted, going down the river, and a lack of maximum production of electric power?

Mr. NIELSEN. We say there could be.

Mr. EVINS. One other point, Mr. Chairman.

Could Mr. Nielsen or any of his staff provide this committee at this time with information as to the amount of rapid tax amortization benefits which the Idaho Power Co. has received in subsidies and grants from the Federal Government?

Mr. NIELSEN. We would be going way out of our field.

Mr. EVINS. I ask you at this time to give us what information you have in that regard. I know it is a matter of record that Senator Byrd has recently documented it and put it in the record in the Senate. If you could supply the committee with what information you have at this time, it would be helpful.

Mr. NIELSEN. We will get what we can.

(The information follows:)

Accelerated tax amortization benefit granted to Idaho Power Co. for their Snake River projects

	Cost	Amortization granted	
		Amount	Percent
Brownlee project	$67,138,240	$43,639,856	65
Oxbow project	35,932,130	21,559,278	60
Total benefit		65,199,134	

NOTE.—No application for tax writeoff was filed for the proposed Hells Canyon project of the Idaho Power Co.

Mr. EVINS. In other words, the private utilities in the area that are opposing the Government developing this site and the full potentialities of water and power have been and are receiving huge grants and subsidies from the Government in the form of rapid tax writeoffs.

Mr. NIELSEN. I have read something to that effect.

Mr. EVINS. You know more than what you have commented upon, do you not, Mr. Nielsen?

Mr. NIELSEN. No, sir; as a matter of fact, I only read. We do not operate in that field at all.

Mr. EVINS. I will ask you if you will supply for the committee information that you are able to obtain in this area.

Mr. NIELSEN. We will.

Mr. BUDGE. Will the gentleman yield to me?

Mr. EVINS. I yield to my very delightful colleague.

POWER AND FLOOD CONTROL PROJECTS SHOULD BE RESPONSIBILITY OF CORPS OF ENGINEERS

Mr. BUDGE. The gentleman referred to me as being articulate. Perhaps I was not as articulate as he gave me credit for being.

I would like to state to the gentleman that even though we may have some philosophical differences——

Mr. EVINS. Is this on the record?

Mr. BUDGE. I assume, after that long and eloquent presentation of the gentleman's, that it should be on the record.

The thing to which I am objecting—and I think the gentleman would object if he lived in my area—is that in 1902 the Congress of the United States created the Bureau of Reclamation for the purpose of reclaiming land and irrigating the desert in the 17 Western States. The Bureau of Reclamation has made a most excellent contribution to the West and to the United States in irrigating the desert in the West and in my congressional district.

Mr. EVINS. Which we on this side fully subscribe to and endorse their fine accomplishment.

Mr. BUDGE. I want the Bureau of Reclamation to continue in that field. I want them to continue their investigations of irrigation and reclamation projects. Now here for the first time in the history of the Bureau of Reclamation——

Mr. EVINS. Are you opposed to the Bureau of Reclamation producing power?

Mr. BUDGE. Will the gentleman let me continue for a moment, please?

For the first time in the history of the Bureau of Reclamation, and they have been at work in the West since 1902, they are going way down the river below any possible irrigation. The Bureau of Reclamation was a creature of the Congress designed to serve the arid areas of the West.

I hope and pray that the Bureau of Reclamation will continue its efforts in that field. If power development is incidental, it certainly should be developed by the Bureau of Reclamation. But if we are going to build projects solely for power and flood-control, then I think they should be constructed by the Corps of Army Engineers and the Bureau of Reclamation should remain in its inherent function which it has over the years done so magnificently for the development of the West.

Mr. EVINS. Will the gentleman yield?

Mr. BUDGE. I wanted to clarify that this is not a dispute, between private power and public power. People who live in arid areas such as I would like to keep the Bureau of Reclamation in its historic function of reclaiming and irrigating land.

Mr. EVINS. Will the gentleman yield now?

Mr. BUDGE. Yes.

Mr. EVINS. The gentleman spoke of irrigation. Would he not admit that the building of such a dam as proposed, either the Hells Canyon or Pleasant Valley, would bring about an impoundment of a great amount of water that is being wasted and lost in your area of the country? I am interested in hearing about this matter. A few years ago on a visit I made through the West I gained the impression that what this section needs is water and power. If we could develop and conserve more water and more power, that area of the West and the desert would bloom.

Mr. BUDGE. I could not agree with the gentleman more fully, but if the gentleman can indicate how he can get the water to run uphill 250 miles in order to irrigate my desert, I would be most interested.

Mr. EVINS. I would be willing to leave it to the very efficient Bureau of Reclamation to make the studies to determine scientifically and upon an engineering basis whether or not this could be done. I would rather leave it not to a layman but to experts who have proven their capacity.

Mr. BUDGE. Is there any contention by the Bureau of Reclamation that impoundment of this water in this area would irrigate a single acre?

Mr. NIELSEN. I do not think we have made that contention. We stated the basic purposes to be flood control and power.

Mr. BUDGE. It is not contended by the Bureau or by anybody else that the building of a lake in this area will irrigate any land.

Mr. NIELSEN. We have associated the revenues with irrigation, and there is downstream irrigation, of course.

Mr. BUDGE. There is no legislation at the present time which would permit the building of this project to assist irrigation in any way, physically or otherwise.

Mr. EVINS. The gentleman states there is no question of an issue between public and private power. It is significant, however, that the private-power interests have fought every inch of the deveolpment of public power in that instance, and in every instance it was devel-

oped it has caused that section to grow and prosper and make progress for the benefit of the people.

Mr. BUDGE. Of course, Mr. Chairman, I do not want to prolong this. I am sorry public versus private power has been injected into these hearings. That certainly was not the purpose of my objection to the transfer of funds from the upstream studies in Idaho. I want the funds used for studies for the impounding of waters at a high enough altitude on the upper Snake and its tributaries so they can be used to irrigate the desert in my State. The Bureau of Reclamation is doing a wonderful job in my area at the present time. I want them to continue, but I want them to store the water up where it can be used by the people in my State, not 250 miles below the desert when we cannot get the water back upstream.

If the Bureau of Reclamation is to conduct this Pleasant Valley study, which I assume it is, then I still want them to get the funds for that purpose from some other source rather than robbing the investigation funds for furtherance of Bureau studies of the upper Snake in southern Idaho and eastern Oregon. I am satisfied that the Bureau must have available funds in a great many areas in view of the previous testimony some days back wherein the Bureau advised the committee of a great many transfers which it was making. The upper Snake River area should not be made to suffer just because the Bureau wants to conduct a study which was not justified to this committee last year, as were the studies on the upper Snake.

PROPOSED TRANSFER OF FUNDS

Mr. RABAUT. I would like to ask a question here for the record: Is this the only place the Bureau could find to have a transfer of funds? I mean this $7,500. It is an odd situation to take it out of the same area.

Mr. BUDGE. Also the $27,000.

Mr. RABAUT. You could find it someplace other than this if you came in with any kind of peaceful ideas.

Mr. NIELSEN. We scratched within one regional office.

Mr. RABAUT. You should do some thinking about it before you come in and it would make it easier for the chairman of the committee.

The committee is adjourned until 2 o'clock.

(CLERK'S NOTE.—The following further discussion of the Pleasant Valley project, which occurred later during the afternoon session, has been rearranged to appear in the record at this point.)

Mr. EVINS. Mr. Chairman, if I may, I would like to have the reporter take down and include in the record, to be made a part of the testimony earlier given concerning the Pleasant Valley transfer of funds. I have had some information called to my attention in that respect. If there is no objection, I would like to have it placed in the record.

Mr. RABAUT. What is it?

Mr. EVINS. I refer to the Congressional Record of April 29, 1957, and I call your attention to page 5466, where there appears a statement by Senator Byrd in which he briefly points out the rapid tax amortization which the Idaho Power Co. requested from the Federal Government and which they received from the Government. They

received grants of tax certificate writeoff in excess of $65 million; to be specific, $65,200,000. In that connection, Senator Byrd says:

> * * * I believe this is an utterly indefensible act, because the law providing for the rapid writeoff depreciation was intended to apply only to those industries which were engaged in defense operations. A public utility is guaranteed its profits.
>
> Therefore, I cannot understand why such a large writeoff has been given the Idaho Power Co.

He then goes on to submit a letter directed to Mr. Arthur Flemming, Director of the Office of Defense Mobilization. This list to which I refer you covers about four pages and I refer specifically to item 491 and the numerous other requests for tax-amortization writeoff. There are two I call your attention to specically, 62047, Idaho Power Co.; 62500, Idaho Power Co. These were submitted August 14, 1951, and August 6, 1953, in respective amounts of $67,138,000 and $35,944,000. This authority was for electric power generating facilities.

Later on in the record it is shown that the grant was made, not in the full amount but $62,200,000 to this utility in this area that has also been granted the right to build dams in the area and is opposing further study by the Government in the matter.

Mr. JENSEN. Mr. Chairman, may I ask, does that have any relation to the Pleasant Valley question that we have been discussing?

Mr. RABAUT. He asked permission to put it in at the place where the Pleasant Valley matter was considered this morning.

Mr. EVINS. It is related to the Hells Canyon and Pleasant Valley items.

Mr. RABAUT. That was in the testimony this morning.

Mr. JENSEN. It might be fair to show how much taxes the Idaho Power Co. has been paying over the years, too, and how much they will pay if they are permitted to build these projects. That would more than offset any figure that might be placed in the record, the contrary notwithstanding.

Mr. RABAUT. Do you want to put that in the record?

Mr. JENSEN. Here is the thing, Mr. Chairman, these taxpaying organizations and the five utilities being one of them, the Idaho Power Co. being a taxpaying organization naturally has in the past many, many years paid in great sums of cash to the Federal Government. We take part of that money and build dams and facilities to compete with them. I think we have to be fair in this thing. I have always voted for our dams that I thought were necessary, transmission lines, like Bonneville, and I voted for Bonneville transmission lines for 14 years, and transmission lines and Federal power projects, all over this Nation where justified. However, you must not forget the fellow who pays the taxes because he is the man whose money we take and do all of these things with that Uncle Sam does.

That is all I have to say.

Mr. EVINS. I would like to observe further, Mr. Chairman, that it is estimated that this rapid tax-amortization writeoff in 5 years—it normally would have been in 20 years—would have been enough to cover the construction of Brownlee-Oxbow Dams.

Mr. JENSEN. I have an answer to that, too, but I do not think this is the place to air all of these differences.

Mr. RABAUT. If you want to put something in the record, Mr. Jensen, I would like to give you the opportunity to do so.

Mr. JENSEN. I have spoken my piece, but I would like an opportunity to make an insert at this point.

(The matter referred to follows:)

STATEMENT OF T. E. ROACH, PRESIDENT, IDAHO POWER CO.

During the pendency of various Hells Canyon bills in Congress, I have from time to time commented upon Idaho Power's position. I am again mentioning matters of current interest. For instance, we have recently been awarded so-called ODM certificates, under the Internal Revenue Code (sec. 168), authorizing accelerated amortization of a portion of the costs of our Brownlee and Oxbow projects. Some 21,655 such certificates have been issued including 913 issued to utilities. The total amount certified is $22,005,115,000, with $3,191,075,000 to utilities. These certificates represent no cash advances to our company by the treasury. Their sole effect is to allow us larger depreciation deductions in computing our income taxes for a 5-year period. These would result in lower income tax payments for these years, but our income taxes would be increased in subsequent years, for we would then have less depreciation deductions. Over the full period, the tax payments will total the same, assuming identical tax rates. The sole effect of these certificates is to allow our company to use temporarily more of its own cash resources in constructing urgently needed facilities. The purpose of the law authorizing this procedure is to assist companies which are willing to provide surplus electric generation capacity, in advance of their own requirements, for the defense needs of a region, as our company is attempting to do.

During the prolonged hearings before the Federal Power Commission I, on July 9, 1953, testified that, while we had not counted on the issuance of such certificates in our financial exhibits, "* * * certainly if accelerated amortization were available to us we would take advantage of the availability of that privilege. * * *"

After this testimony and while the FPC hearing was in progress, we, in August 1953, filed applications for these certificates with ODM.

I was recalled for cross-examination, and on December 8, 1953, was questioned at some length about these applications and the company's plans in that regard. I testified that "* * * if it (accelerated amortization) were available to us we certainly would take steps to put ourselves in the position to take advantage of it * * *." The applications remained on file while the FPC proceedings continued before the Commission, and thereafter during the review proceedings in appellate courts.

As you know, license was issued by the FPC August 4, 1955. Because of the desperate need for power, both in the company's service area and in the whole Pacific Northwest, construction was commenced in November 1955 upon the Brownlee plant. This development is the largest and farthest upstream, with 1 million acre-feet of usable storage capacity, 360,000 kilowatts of generation, and a peaking capacity of 414,000 kilowatts. This plant is now more than 50 percent completed, and its entire production will be available next year, 1958.

On April 1, 1957, the United States Supreme Court denied certiorari, in effect affirming the unanimous decision of the United States Court of Appeals (District of Columbia) upholding the validity of the company's license. Following this, the ODM certification was issued, allowing accelerated amortization of 65 percent of a portion of the Brownlee and 60 percent of the Oxbow plant costs.

These certificates are not only authorized but eminently justified under existing law. The Brownlee and Oxbow plants will make available to the power-short Pacific Northwest power pool (with which they will be fully integrated) surplus peaking capacity (over the company's needs) from a maximum of 464,000 kilowatts in 1959, ranging down gradually to 237,000 kilowatts in 1963. During the same period, they will contribute surplus average generation ranging from 288,000 kilowatts to 80,000 kilowatts. No other plants can as speedily make such great contributions to this region, with its multitude of defense installations, which has continual power shortages, the latest one, in January 1957, causing shutdowns of great aluminum plants, with accompanying unemployment. In addition, Brownlee will furnish 1 million acre-feet of usable flood-control space, to be used as directed by the Army engineers, and which that organization has found to create benefits valued at $1 million annually for the region.

On Brownlee alone, we have already expended over $25 million in construction work, all our own funds. We have obligated ourselves for another $25

million for equipment in process of manufacture for both Brownlee and Oxbow—and finally the whole 3-dam project, with its ultimate installation of 1,175,000 kilowatts, will be built with our own funds. Not $1 will come from the United States Treasury. As we have stated, and I again repeat, these plants will not only be built without expense to the taxpayers, but will pay Federal and State taxes of some $10 million annually, of which $6 million will go directly to the Federal Government.

CANYON FERRY RESERVOIR

1957 TRANSFER AUTHORITY REQUESTED

Mr. RABAUT. We will take up the Canyon Ferry Reservoir under the Bureau of Reclamation. We have received a letter requesting authority to transfer an additional $160,000 to complete the acquisition of land seeped by the Canyon Ferry Reservoir. We will insert the letter received from the Assistant Secretary of the Interior into the record.

(The letter follows:)

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D. C., April 25, 1957.

Hon. CLARENCE CANNON,
Chairman, Committee on Appropriations,
House of Representatives, Washington, D. C.

DEAR MR. CANNON: The Bureau of Reclamation has advised the Department that a recent report on the status of the appraisal work for the Canyon Ferry right-of-way settlements indicates that estimated additional funds in the amount of $160,000 in 1957 will be required to complete all acquisitions of lands seeped by the Canyon Ferry Reservoir.

You will recall that on April 11, 1956, we advised you of the seepage problem which had developed on lands adjacent to the reservoir and that the Bureau had been authorized to transfer $394,000 to the Canyon Ferry unit for the acquisition of flowage rights and lands in fee, payment for crop damages and other costs. These funds were made available by the Transmission Division from savings in the 1956 program.

An independent appraisal board originally found that 12 separate land holdings were involved. Further studies have indicated that five additional parcels of land are affected by seepage. The cost of acquisition of these lands, payment for crop damages and other costs will require an additional $160,000 this fiscal year. This amount can be made available to the Canyon Ferry unit by transfer from the Transmission Division.

We would appreciate your approval or advice at an early date.

Sincerely yours,

FRED G. AANDAHL,
Assistant Secretary of the Interior.

LAND SEEPED BY RESERVOIR

Mr. RABAUT. What has caused this increased cost over the $394,000 approved a year ago?

Mr. NIELSEN. I will ask Mr. Crosthwait to answer it.

Mr. CROSTHWAIT. This is for five additional parcels we found were also being seeped because of the level of the reservoir at Canyon Ferry. When we first took the land around that reservoir, we took a minimum amount, but this seepage is on the extreme end of the reservoir. This additional amount is to acquire the five additional parcels.

Mr. RABAUT. Amounting to what in acreage?

Mr. CROSTHWAIT. The total acreage of that I do not have.

Mr. RABAUT. You come in and ask for $160,000 and do not know what you are going to get for it; is that right?

Mr. DOMINY. The problem in giving you a figure of total acreage is part of this we will take by easement, part of it is fee simple.

Mr. RABAUT. Let's have the information. That is what we are here for.

Mr. NIELSEN. May we furnish that for the record?

Mr. RABAUT. How can we talk about it if we only get it in the record? You had $394,000 here and now you want $160,000 more, and you say it is for some land. That is what we are getting for our $160,000. It does not sound good.

Mr. DOMINY. That is our best estimate for the additional area affected. Part of it is irrigated lands which would run up to three or four hundred dollars an acre for the acres affected.

Mr. RABAUT. Could somebody find out some place here how much land is involved for this $160,000?

Mr. NIELSEN. We will get that for you.

Mr. RABAUT. All right. Is anybody in this room familiar with where this land is?

Mr. NIELSEN. We know it is in the upper end of Canyon Ferry.

Mr. RABAUT. Adjacent to it?

Mr. DOMINY. Immediately adjacent. The reservoir does not actually physically flood the land. But the land is irrigated and it had natural drainage that has been affected by the higher elevation of water being impounded in the reservoir. That problem had not been anticipated. Because we knew we were not actually going to physically flood the land, we did not buy it, but now that the reservoir has filled it has apparently hydraulically closed off certain natural drainage to land that lay above the level of the reservoir and these lands are becoming seeped. They were not seeped before the reservoir was constructed.

Mr. RABAUT. You mean they are seeping at a higher elevation?

Mr. DOMINY. They are seeping at a higher elevation than the level of the reservoir because of that natural drainage having been closed up.

Mr. NIELSEN. The underflow is not escaping.

Mr. RABAUT. Is there any place to the other side of this land where you could drain it?

Mr. DOMINY. We believe not.

Mr. RABAUT. How much land is involved here?

Mr. DOMINY. It is difficult to give an exact acreage. I would asume that for $160,000, it is probably around 1,000 to 1,200 acres affected additionally to what we anticipated.

Mr. RABAUT. Are you taking this land in fee?

Mr. DOMINY. We take some of it in fee and some in easements.

Mr. RABAUT. How much are you taking in fee and how much in easements?

Mr. DOMINY. We cannot give you that figure until a negotiation has been completed because we offer the owner an alternative.

Mr. RABAUT. One man owns it all?

Mr. DOMINY. No, sir; but each owner is given the alternative.

Mr. NIELSEN. There are five parcels.

Mr. RABAUT. The only thing you are sure is that it will cost us $160,000?

Mr. DOMINY. That is our best estimate on the basis of the appraised value of the area.

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Mr. RABAUT. Do you have the amount of acreage involved now?

M. CROSTHWAIT. There are 5 tracts averaging 180 acres apiece, or 900 acres.

Mr. RABAUT. This seepage is going to affect the value of this land?

Mr. DOMINY. Definitely, sir.

Mr. RABAUT. How much are we going to pay per acre for this defective land and how much was it worth before?

Mr. CROSTHWAIT. Our present value is about $170 an acre.

Mr. RABAUT. What did you pay for the adjacent land you used?

Mr. DOMINY. For irrigated land in that area it would be appraised at between $150 and $250 per acre depending on the quality of land and its productive potential. Some of it is merely good for hay production and other land is good enough for general agricultural production.

Mr. RABAUT. Is this all irrigated?

Mr. DOMINY. Most of it is.

Mr. RABAUT. The average is $170 an acre. Is that not high?

Mr. DOMINY. Not for irrigated land.

Mr. RABAUT. But it is not all irrigated?

Mr. DOMINY. Most of these lands thata re affected are irrigated.

Mr. RABAUT. If you had more figures here, I would ask you how many acres are irrigated and how many are not. I do not want to embarrass the witnesses any further.

Mr. DOMINY. In our letter to you we point out the $160,000 is needed in part to pay crop damage. So part of this is to cover that.

Mr. RABAUT. It is a good thing we got told about that.

Mr. DOMINY. It was in the letter, sir, we submitted to you.

Mr. RABAUT. I am listening to what is being said.

Mr. DOMINY. Since we did not buy that——

Mr. RABAUT. How much money is in here for crop damage?

Mr. DOMINY. I cannot give you that breakdown until it has been assessed.

Mr. RABAUT. If I ask the questions, the witnesses are embarrassed.

Mr. DOMINY. It is not known, sir, until there is a meeting of minds as to what the crop was worth.

Mr. RABAUT. The only thing that is firm is the $160,000?

Mr. DOMINY. That is the best estimate we can give.

Mr. NIELSEN. That is a firm estimate.

Mr. RABAUT. All right. Do you feel we should let you go ahead with this Canyon Ferry Reservoir; that it is about as firm as you can give it?

Mr. DOMINY. I do because if we do not get this straightened up, every year these lands are damaged they come to us for claims, and you know from experience, I am sure, that any crop that is damaged is worth a lot more than if it was actually harvested.

Mr. RABAUT. The committee is being told now that this $160,000 is going to clear this up; is that right?

Mr. DOMINY. That is our best estimate as of today, that it will clear it up. I cannot assure you that it will.

Mr. RABAUT. At $170 an acre, it should.

Mr. DOMINY. I can assure you we are not paying seepage damage or trying to buy any land that is not actually affected.

Mr. RABAUT. Is there any objection on the part of the committee to telling them to go ahead with this? I do not suppose so.

Mr. KIRWAN. Let me ask you this. A few years ago at Big Thompson I saw a dam and reservoir. I was informed that a mistake had been made that you did not buy the land all around.

Mr. NIELSEN. Shadow Mountain.

Mr. KIRWAN. The ground had cottages on it and it was being sold at tremendous profits. When you build a reservoir now, do you get all the land around it?

Mr. NIELSEN. We are between two fires there. Actually we have the proposition of divorcing a man from as little of his land, upsetting his situation to the minimum possible extent, and there is the interest of the public in having public access to the reservoir facility. We are in the middle.

Mr. KIRWAN. After the Government gets the land, you know the public is going to have a chance to get in there, but what I am asking is this: Do you buy the land all around the lake now?

Mr. NIELSEN. Yes, at least access to the high waterline plus 300 feet horizontally back from the high waterline.

Mr. KIRWAN. You do that?

Mr. NIELSEN. Yes, sir.

Mr. KIRWAN. That is fine, because once you build the reservoir, there is almost as much money made on the land as you put into it.

Mr. NIELSEN. In some spots. In other spots we are moving a farmer's operation, and he does not like to have us go any farther than is necessary.

Mr. KIRWAN. If you get an easement off him with the clause that he cannot sell it——

Mr. NIELSEN. We try to get the reasonable answer for all interests concerned.

Mr. KIRWAN. To build a reservoir and then let somebody have the right to sell that valuable land there, that is not desirable.

Mr. NIELSEN. Our minimum taking is the 300 feet.

Mr. KIRWAN. Just as long as that is controlled, all right.

REMAINING ITEMS, BUREAU OF RECLAMATION

GENERAL INVESTIGATIONS

Mr. RABAUT. We will take up now "General investigations"; $167,100 is requested for the printing of reports and general engineering and research studies, a decrease of $69,000 from funds available this year.

We will put pages BR–1 to BR–6 in the record.

(The information follows:)

Estimate for remaining items

Allocation of appropriation, fiscal year 1957	$222,519	
Prior-year balance available	13,917	
Total obligations, fiscal year 1957		$236,436
Estimated allocation of appropriations, fiscal year 1958	$167,100	
Total obligations, fiscal year 1958		167,100

DESCRIPTION

The funds scheduled under this heading are for items of a general nature which are not identifiable at this time with or for the benefit of specific projects. In fiscal year 1958, this will include the cost of (1) printing those basin and project reports which have been submitted to Congress and ordered to be printed and (2) general engineering and research studies to collect, analyze, and apply basic data essential to the planning of complex, multipurpose water-resource developments. Some of the studies undertaken as part of the latter program are—

(1) Hydrologic network
(2) Hydrometeorological investigations
(3) Sedimentation investigations for development of methods and procedures
(4) Snow investigations and surveys
(5) Development of forecast methods for river operations
(6) Evaporation losses from reservoirs and evapotranspiration
(7) Water requirements for irrigation

WORK UNDERWAY AND PROPOSED

The "General investigation" obligation program of $236,436 for the current fiscal year and $167,100 for fiscal year 1958 for this activity will provide for the printing of project and basin reports ordered by Congress to be printed and for the continuation of general engineering and research studies. The activity breakdown of work proposed in fiscal year 1958 compared with the program for fiscal year 1957 is shown in the following "Summary by activities," and the details of the program proposed is presented in the accompanying tabulation entitled "Schedule of general investigation program, fiscal years 1957 and 1958."

Summary by activities, remaining items

Activity	Estimated costs of investigations in the current program				
	Total estimated cost	Total to June 30, 1956	Program fiscal year 1957	Program fiscal year 1958	Balance to complete
Engineering and economic investigations	$2,388,665	$1,158,155	$237,678	$171,000	$821,732
Total cost to appropriation	2,388,665	1,158,155	237,678	171,100	821,732
Distributive costs: Service facilities, unliquidated obligations, etc.			−1,242	−4,000	
Total obligation program			236,436	167,100	
Less unobligated carryover and funds advanced			−13,917		
Allocation of estimate			222,519	167,100	

Engineering and economic investigations, detail by activity

Subactivity	Total estimated cost	Total to June 30, 1956	Program, fiscal year 1957	Program, fiscal year 1958	Balance to complete
Basin surveys	$28,000			$3,000	$25,000
Project investigations	169,000		$51,000	18,000	100,000
General engineering and research	2,191,665	$1,158,155	186,678	150,100	696,732
Total cost to appropriation	2,388,665	1,158,155	237,678	171,100	821,732

Basin surveys.—No funds are scheduled for this activity in fiscal year 1957. During fiscal year 1958 it is estimated that the cost to appropriation program of $3,000 will be required for printing of basin reports.

Project investigations.—For fiscal year 1957 the cost to appropriation program of $51,000 will provide for printing of project feasibility reports. It is estimated that by the end of the current fiscal year some 18 project reports will have been submitted to Congress of which the majority will be ordered to be printed. The program will also provide for review of applications of irrigation districts and

other public agencies for Federal loans for construction of small projects under the Small Reclamation Projects Act of 1956.

In fiscal year 1958 it is estimated that about 20 project reports will be completed for submittal to Congress, and it is estimated that a cost to appropriation program of $18,000 will be required during that fiscal year to print those reports ordered to be printed by Congress.

General engineering and research.—During fiscal year 1957 a cost to appropriation program of $186,678 will be utilized to continue these studies which are of great importance to the future of the entire reclamation program. In fiscal year 1958 a cost to appropriation program of $150,100 will permit continuation of these studies but at a reduced level.

JUSTIFICATION

Feasibility reports generally are printed after review by affected States and interested Federal agencies and pursuant to the policies and directives of the Congress. It is impossible to predict in advance which particular reports will be printed in a fiscal year. The results of the comments by the several reviewing agencies govern to a large extent the sequence and timing of the submission of any report to the Congress. The subsequent actions by Congress generally determine the time of the printing, so it is not possible to allot the estimated printing funds to any particular project in advance even though the costs of such printing, when done, will be charged to the specific projects involved. Funds for this work are therefore scheduled and requested as separate items.

Practically all of the simple, easily developed reclamation projects have long since been completed, largely by private capital, and almost all of the remaining potential developments involve large and complex undertakings. As such, they present much more severe requirements in the way of planning, design and construction, and operation than those in the past, to such an extent that the limit of available basic technical knowledge has been approached. To insure that these future projects will be properly designed and constructed from the standpoints of economy and safety as well as from the standpoint of optimum utilization of the limited water supply, it is essential that the present technical knowledge relating to some of these important and difficult problems be extended without delay through a continuation of general engineering and research studies.

Schedule of general investigations program, fiscal years 1957 and 1958—remaining items

Program item	State	Total estimated cost	Cost to June 30, 1956	Fiscal year 1957 program	Fiscal year 1958 estimate	Balance to complete investigations	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ENGINEERING AND ECONOMIC INVESTIGATIONS							
Basin surveys:							
Print basin survey reports		$28,000			$3,000	$25,000	Funds are required for printing of basin reports. Such costs are chargeable to the specific basins but are not scheduled with the basin survey costs since it is impossible to predict just when or what reports will be cleared in the review by States, Federal agencies, and the Congress, for printing.
Contribution to civil-service retirement fund.							
Total, basin survey costs		28,000			3,000	25,000	
Cost adjustments							
Total, basin survey costs to appropriation.		28,000			3,000	25,000	
Project investigations:							
Print project reports		136,000		$18,000	18,000	100,000	Funds are required for printing of project reports. Printing costs are chargeable to the specific projects but are not scheduled with those projects because it is impossible to predict just when and what reports will be cleared in the review by States, Federal agencies, and the Congress, and ordered to be printed.
General engineering, small projects		33,000		33,000			The Small Reclamation Projects Act of 1956 (Public Law 984) was signed by the President on Aug. 6, 1956. Under this act, the Bureau is responsible for reviewing proposals for the construction of small projects by irrigation districts and other public agencies and approving loans for that purpose. It is anticipated that these funds will be required for review of plans and estimates during the current fiscal year. When funds are made available for loan purposes, presumably in fiscal year 1958, these administrative costs will be charged to that fund rather than the GI activity.
Contribution to Civil Service Reserve fund.							
Total, project investigation costs		169,000		51,000	18,000	100,000	

Cost adjustments							
Total, project investigation costs to appropriations.		169,000		51,000	18,000	100,000	
General engineering and research:							
Region 2: Subsidence studies		85,000	$44,481	30,519	10,000		Land subsidence is known to exist in three extensive areas of the lower San Joaquin area in Central Valley, Calif. These deep alluvial or sedimentary soils irrigated to a great extent from ground-water pumping, present a problem in construction and maintenance of engineering features required for the development of these arid areas, as well as a major maintenance problem with existing structures some of which have already been affected. The studies are directed toward the determination of causes and controlling factors in such problem areas, looking to possible means of alleviating or minimizing the adverse effects of such subsidence. The program provides for Bureau participation on items of immediate interest and general assistance in a much broader overall program by an interagency committee.
Region 3: Colorado River water right litigation studies.		84,000	24,041	34,000	15,000	10,959	The case of *Arizona* v. *California* is before the Supreme Court for determination of the respective rights of California and Arizona to water in the Colorado River. The funds programed are for research and collection of data which will have a bearing on the litigation. Now that the case has actually started, additional costs are being incurred through reproduction of material for the Government's intervention and through increased correspondence relative to data bearing on the case. The Department of Justice also requested that the Bureau assign an engineer to their Department to assist in the litigation.

Schedule of general investigations program, fiscal years 1957 and 1958—remaining items—Continued

Program item	State	Total estimated cost	Cost to June 30, 1955	Fiscal year 1956 program	Fiscal year 1957 estimate	Balance to complete investigations	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ENGINEERING AND ECONOMIC INVESTIGATIONS—continued							
Miscellaneous services:							
General planning studies		$1,412,700	$658,548	$101,343	$99,000	$553,809	These funds are allotted to the Commissioner's Office, Denver, for general planning studies not for specific projects. This program is vital to the overall program of the Bureau of Reclamation. In planning potential irrigation and power projects, it is imperative that all available data are at hand and that necessary and practical procedures and methods be developed for use in determination of the water resources; water requirements of the potential projects, and other basin uses; inflow spillway design floods for dams and other structures; amount and disposition of sediment in reservoirs, conveyance channels, and canals; expected aggradation and degradation of streams as a result of construction of water control works, etc., and the most beneficial operation of the system of reservoirs in the development and operation of river basin systems. Beginning in fiscal year 1957, this program also includes funds for a study to determine, in cooperation with other agencies, the effect of various programs on water yield of a basin. Of immediate concern, the proposed watershed treatment programs of the Department of Agriculture, in addition to conserving soil and reducing some flood peaks and sediment load, will affect the water yield. The amount of this influence will vary with different localities and types of treatment. There is little data and no general area of agreement on the magnitude of the effect, or even on methods of estimating the effect. Since an estimate of available water supply is basic to planning of Reclamation projects, it is essential that methods are available for estimating the effect on water supply by other programs and that the methods be agreed upon among the interested agencies.
Hydrological studies		528,641	387,825	20,816	20,000	100,000	These funds are to permit the Bureau to cooperate with other agencies, through technical subcommittees of the Interagency Committee on Water Resources as well as through direct interagency agreement, on various in-

							vestigative projects. Through these projects, various types of basic data and various items of research, involving hydrologic procedures or equipment, which are of interagency value, are jointly financed and carried on. These projects vary in nature, with the Bureau sharing in those which are aimed at development of better data, procedures or equipment for use in hydrologic and sedimentation studies in western areas, which in turn have as their objective the better use of the limited water supplies of the West. During fiscal year 1957 and fiscal year 1958, funds are to be used for evaporation and transpiration studies, development of radiosotope sediment density sampler, development of equipment for measuring sediment loads in streams, and for bringing up to date sediment load inventory and hydrologic basin maps.
Contribution to civil-service retirement fund		38,200			6,100	32,100	Additional fund requirement for Public Law 854.
Subtotal, general engineering and research costs		2,148,541	1,114,895	186,678	150,100	696,868	
Cost adjustments		43,124	43,260			−136	Applicable portion of transfers, credits and other expenditures to reconcile costs to appropriations.
Subtotal, general engineering and research cost to appropriation		2,191,665	1,158,155	186,678	150,100	696,732	
Total, engineering and economic investigation costs		2,345,541	1,114,895	237,678	171,100	821,868	
Cost adjustments		43,124	43,260			−136	Applicable portion of transfers, credits and other expenditures to reconcile costs to obligations.
Total, engineering and economic investigation costs to appropriation.		2,388,665	1,158,155	237,678	171,100	821,732	
Distributive costs: Stores service facilities, unliquidated, obligations, etc.				−1,242	−4,000		
Total obligations				236,436	167,100		
Method of financing:							
Allocation of appropriation				222,519			
Prior year balance available				13,917			
Contributions							
Allocation of appropriation requirements.					167,100		

Mr. RABAUT. How much are you carrying over or how much is unobligated as of a recent date?

Mr. CROSTHWAIT. We do not have it for that specific item. We have it for the "General investigations" item, about $160,000.

Mr. RABAUT. General investigations is what I am asking about.

Mr. CROSTHWAIT. That is the balance on that total fund.

Mr. RABAUT. You have what?

Mr. CROSTHWAIT. About $160,000 unobligated for the rest of this year.

Mr. RABAUT. How much did you have last year?

Mr. CROSTHWAIT. Unobligated?

Mr. RABAUT. How much did you have in the whole fund?

Mr. BENNETT. In 1957 we had $236,000.

Mr. RABAUT. You had how much left?

Mr. CROSTHWAIT. That is out of the total GI fund. This is paid from GI. This amount we estimate will be fully obligated in 1957 for this item.

Mr. RABAUT. What I want to get is an answer to my question. I guess you do not have that information here either.

Mr. CROSTHWAIT. Would you repeat your question, sir?

Mr. RABAUT. Off the record.

(Discussion off the record.)

Mr. CROSTHWAIT. We do not anticipate that we will have any of that amount unobligated in 1957.

Mr. RABAUT. From your books you have no information on it?

Mr. CROSTHWAIT. We have that information.

Mr. RABAUT. What is the unobligated balance as of some date recently?

Mr. CROSTHWAIT. Our estimated unobligated balance for that particular item will be zero on June 30.

Mr. RABAUT. That is fine. What is it today or what was it last week or the 1st of March or some date? That was my question, not what it will be at the end of the year.

Mr. CROSTHWAIT. That I do not have.

Mr. RABAUT. All right. That was the question. You will not have any at the end of the year?

Mr. CROSTHWAIT. That is our present estimate.

CONSTRUCTION AND REHABILITATION

DISTRIBUTION SYSTEM LOANS TO IRRIGATION DISTRICTS

Mr. RABAUT. We will take up "Construction and rehabilitation"; $7,700,000 is requested for loans to irrigation districts for construction and distribution systems under Public Law 130, approved May 14, 1956.

We will put pages BR–14 to BR–16 in the record.

(The information referred to follows:)

LOAN PROGRAM—DISTRIBUTION SYSTEMS

Location: In Central Valley project and Solano project in central area of California.

Authorization: Authorized under Public Law 130, 84th Congress, 1st session, as amended by Public Law 520, approved May 14, 1956.

Description: Public Law 130 provides that irrigation districts may borrow interest-free Federal funds for the construction of irrigation distribution systems.

Summarized financial data

Estimated total obligations	$23,800,000
Total obligations to June 30, 1956	----------
Total obligations, fiscal year 1957	15,900,000
Total obligations, fiscal year 1958	7,700,000
Balance to complete	100,000

On a cost basis the fiscal year 1958 program will total $10,200,000. The narrative justification which follows explains the fiscal year 1958 cost program.

Status: The Second Supplemental Appropriation Act of 1957 appropriated $12,700,000 to cover the loan requirements of the Solano County Water District for the construction of a distribution system, $3,400,000 of prior year funds were made available for the Terra Bella Irrigation District system. During the current year plans for specifications will be prepared and the construction of the system initiated in fiscal year 1958. In Central Valley project three irrigation districts will have loan requirements as follows: Terra Bella in fiscal year 1957, and Porterville and Saucelito in fiscal year 1958. The estimated total and the annual programs include provision for the administrative and engineering expenditures made by the Bureau in connection with the distribution systems in the loan program.

LOAN REQUIREMENTS, FISCAL YEAR 1958

Solano project

Solano Irrigation District, $5,000,000.—This amount is the estimated portion of the total loan requirements of $12,700,000 which will be required in fiscal year 1958. Estimated total advanced through fiscal year 1958, $5,700,000.

Central Valley project

Terra Bella Irrigation District, $1,500,000.—This amount is the estimated portion of the total loan requirements of $3,400,000 which will be required in fiscal year 1958. Estimated advanced through fiscal year 1958, $1,900,000.

Porterville Irrigation District, $1,300,000.—This amount is the estimated portion of the total loan requirement of $2,300,000 which will be required in fiscal year 1958. Estimated total advanced through fiscal year 1958, $1,300,000.

Saucelito Irrigation District, $2,400,000.—This amount is the estimated portion of the total loan requirement of $5,400,000 which will be required in fiscal year 1958. Estimated total advanced through fiscal year 1958, $2,400,000.

Undelivered orders, $2,400,000.—Represents funds advanced to the irrigation districts in fiscal year 1957 which are being charged to the work in fiscal year 1958.

Schedule of construction program fiscal years 1957 and 1958—Loan program, distribution systems

Program item	Estimated total	Total to June 30, 1956	Program, current year 1957	Program, budget year 1958	Balance to complete
(1)	(2)	(3)	(4)	(5)	(6)
CONSTRUCTION PROGRAM					
Solano Irrigation District	$12,700,000		$700,000	$5,000,000	$7,000,000
Terra Bella Irrigation District (C. V. P.)	3,400,000		400,000	1,500,000	1,500,000
Porterville Irrigation District (C. V. P.)	2,300,000			1,300,000	1,000,000
Saucelito Irrigation District (C. V. P.)	5,400,000			2,400,000	3,000,000
Total construction cost	23,800,000		1,100,000	10,200,000	12,500,000
Total project cost	23,800,000		1,100,000	10,200,000	12,500,000
Adjustments		$24,185	12,000		−36,185
Total cost to appropriation	23,800,000	24,185	1,112,000	10,200,000	12,463,815
Total expenditures	23,800,000	24,185	1,112,000	10,200,000	12,463,815
Undelivered orders		−24,185	14,788,000	−2,400,000	−12,363,815
Total obligations	23,800,000		15,900,000	7,800,000	100,000
Method of financing:					
Allocation of appropriation fiscal year 1957			12,700,000		
Application of prior year funds			3,400,000	200,000	100,000
Balance available in subsequent years			−200,000	−100,000	
Funds required				7,700,000	

Mr. RABAUT. Briefly describe this new loan program for which $16,100,000 is available this year.

Mr. NIELSEN. I have a statement prepared on that, Mr. Chairman.

Mr. RABAUT. Put that in the record and give us a brief statement on it.

(The statement follows:)

DISTRIBUTION SYSTEM LOANS FOR RECLAMATION PROJECTS

Public Law 130 of the 84th Congress authorized loans to water users organizations to construct distribution systems where authorized as a part of the facilities of a reclamation project. At the present time the Solano and Central Valley projects are the only projects where an active interest has been shown by water users in securing loans for this purpose.

The Public Works Appropriation Act, 1957, made funds available for a loan to the Solano Irrigation District and to two districts of the Central Valley project. Before loans can be consummated, it is considered necessary that the full amount of the funds required for the loan be appropriated. As explained in the appropriations hearings last year, the contracting district in this manner is assured that the full amount of the loan has been appropriated and that funds can be made available as needed, thus permitting the scheduling of work for mximum efficiency. Also the district would not be hampered by a potential of extra costs of construction contracts that are subject to the availability of funds. However, funds will only be released to the district as required to meet approved construction plans and schedules, not in the entire amount of the loan at one time. It is expected that the Solano system will be constructed over a 3-year period.

The proposed distribution system loan repayment contract with the Solano Irrigation District was approved as to form by Assistant Secretary Aandahl, February 19, 1957. Full agreement has been reached on the contract with the district, and execution and validation of the contract is expected this year. The loan commitment is for $12,302,000, and would be repayable in 40 years after the close of a 6-year development period. Construction of the distribution system should be expedited, as construction is well advanced on related water supply facilities necessary to furnish water to the district.

Water service contracts for this project have been executed and validated. The decision of the California State Supreme Court in the Ivanhoe case involved

contracts not yet validated. Where validated contracts are in effect, the view has been expressed that the decision in the Ivanhoe case will not operate to upset the validation.

The California Districts Securities Commission requested a minor change in one of the provisions of the Solano Irrigation District contract, and the change was agreed to by the Department of the Interior April 26, 1957. It is expected that the Solano Irrigation District in May will secure clearance from the California Districts Securities Commission to submit the contract to a local election for the purpose of authorizing execution of the contract.

Four districts of the Central Valley project are proceeding with the preparation of reports and applications for distribution system loans. The districts already have executed water service contracts, but additional distribution system facilities are needed in order that all the water under contract may be utilized by the irrigable lands within these districts. The districts and estimated costs of proposed systems are:

Terra Bella Irrigation District	$3,400,000
Porterville Irrigation District	2,300,000
Saucelita Irrigation District	5,400,000
Chowchilla Water District	2,500,000

Progress on all reports is proceeding rapidly, and it is contemplated that contracts can be executed with the districts in fiscal year 1958 to the extent that funds are available to meet loan commitments.

Mr. NIELSEN. This arises from Public Law 130 of the 84th Congress. In effect it substitutes the irrigation district for the Bureau of Reclamation as a construction agency for its distribution systems. Financing is still out of the Federal Government. We will make loans to the irrigation district for the purpose of building the irrigation distribution system rather than the United States building the system.

There is a quirk in that process that you should know about. We covered it last year. In the opinion of our attorneys, when we contract for such a loan—Mr. Jensen and I had an exchange on it last year—when we contract for such a loan, our attorneys tell us we should have the full amount of the dollar value of that loan in hand. In other words, it cannot be one of these items contingent upon appropriations.

Mr. RABAUT. Is there interest on that loan?

Mr. NIELSEN. There is no interest on the distribution system loans. It is purely a substitution of the irrigation district for the Bureau of Reclamation as the construction agency.

STATUS OF CONTRACTS

Mr. RABAUT. What is the status of contracts with irrigation districts for loans?

Mr. NIELSEN. From Solano Irrigation District in California, which involves $12,700,000, as I remember the figure, we have an agreement as to the contract. The contract has not been executed. It requires an election on the part of the district, which election we should have very soon. We will then have a working contract. Both the Secretary and the district have indicated they are willing to sign as soon as the details are taken care of.

Mr. RABAUT. Are there any other contracts?

Mr. NIELSEN. There are no other contracts up to that point. We are working with several other districts toward irrigation distribution system loans.

Mr. RABAUT. What are you going to do with the rest of the money?

Mr. NIELSEN. For Terra Bella Irrigation District in California

we expect a loan of about $3,400,000, for Porterville Irrigation District $2,300,000, Saucelita Irrigation District $5,400,000, and for Chowchilla Water District $2,500,000.

Mr. RABAUT. You expect all this, but what is the status of the whole thing?

Mr. NIELSEN. Again I was perhaps too brief. We are proceeding with the preparation of reports and applications for the loans to these four districts for their distribution systems.

Mr. RABAUT. Can this money be used for any other purpose if you do not use it for this loan purpose?

Mr. NIELSEN. Only within our area of flexibility of transfer that we have had some discussion about earlier.

Mr. RABAUT. Transfer to what activity?

Mr. NIELSEN. To other construction activities.

1957 FUNDS STILL AVAILABLE

Mr. RABAUT. Have you used all the $12,700,000 appropriated for this fiscal year?

Mr. NIELSEN. No, we have not entered into contracts yet.

Mr. RABAUT. How much will actually be needed for advance in 1958?

Mr. NIELSEN. Our best estimate of what we will need in 1958 was enough to cover the four of these contracts.

Mr. DOMINY. $7,700,000.

POSSIBILITY OF APPROPRIATING ONLY ANNUAL ADVANCE REQUIREMENTS

Mr. RABAUT. We want to consider providing only enough money annually to meet the advances on these loans. Last year we put some language in the committee bill that got lost in the legislative process. We might want to handle this under the provisions of that language and reinstate it in this year's bill.

Mr. DOMINY. You would want from us now perhaps an estimate, if that language were to be effective, how much we would need in dollars next year?

Mr. RABAUT. Yes, the minimum advance.

Mr. DOMINY. We will supply that for the record.

Mr. RABAUT. All right.

(The information follows:)

The supplemental appropriations measure for fiscal year 1957 of the House of Representatives, 84th Congress, 2d session, H. R. 12350, provided an additional amount for construction and rehabilitation of $2,500,000 with the proviso:

"* * * *Provided*, That any contract under the Act of July 4, 1955 (69 Stat. 244), as amended, which calls for the making of loans beyond the fiscal year in which the contract is entered into shall be made only on the same conditions as those prescribed in section 12 of the Act of August 4, 1939 (53 Stat. 1187, 1197)."

The minimum advance required for fiscal year 1958 under the language proposed by the House last year would be:

	Total cost	Minimum advance through fiscal year 1958
Solano Irrigation District	$12,700,000	$5,700,000
Porterville Irrigation District	2,300,000	1,300,000
Terra Bella Irrigation District	3,400,000	1,900,000
Saucelito Irrigation District	5,400,000	2,400,000
Total	21,900,000	11,300,000

NO TRANSFERS FROM LOAN FUNDS

Mr. JENSEN. Mr. Chairman, on this loan proposition that we have under "Construction and rehabilitation," I believe one of the witnesses said that you had the privilege of making transfers out of this fund into other funds.

Mr. NIELSEN. I did not say it so definitely as that. I was asked where might you use it otherwise?

I said in our "Construction and rehabilitation" program within whatever flexibility we might have for transfer.

Mr. JENSEN. These loan funds are in the separate and distinct category of their own and should not be interrelated to any of the rest of your programs, should they?

Mr. NIELSEN. They are part of our construction and rehabilitation funds. Before I go further with that, I should have Mr. Crosthwait pick up with the fund area.

Mr. JENSEN. That is a project, so to speak, of its own and should stand on its own feet, as I see it.

Mr. CROSTHWAIT. We made no transfers from these funds.

Mr. JENSEN. I was going to ask you that.

Mr. CROSTHWAIT. We have made none.

Mr. JENSEN. Do you anticipate making any transfers?

Mr. CROSTHWAIT. We do not anticipate making any.

Mr. JENSEN. I could see where you might transfer from one project to another within this category, but it seems to me you should never transfer out of these funds that Congress appropriates for this loan activity to another activity.

Mr. CROSTHWAIT. We have had no intention of making any transfers out of this fund to any other activity.

Mr. JENSEN. That is fine; I am glad to hear that: that is all.

SUBSTITUTION OF DISTRICT FOR BUREAU CONSTRUCTION

Mr. FENTON. What is the average size of the irigation project involved in this?

Mr. NIELSEN. I do not have it. As I said, we are working actively on five. I would have to look that up. I do not have that with me, but they are typical districts in the State of California, Doctor.

Mr. FENTON. As I understand it, these are private irrigators who just want to irrigate their own land?

Mr. NIELSEN. These are people who have contracted with us for waters out of our Central Valley system. We had authorization to

build the distribution systems under this bill, and these loans are restricted to distribution systems which have been authorized to the Bureau. As I said, it is purely a substitution of the irrigation distribution as a designing and construction agency for the Bureau.

Mr. FENTON. That is what I am trying to develop.

Mr. NIELSEN. It is just as narrow as that.

Mr. FENTON. In other words, they are building their own system?

Mr. NIELSEN. With funds advanced by the United States under these loans.

Mr. FENTON. No interest charge?

Mr. NIELSEN. No interest charge; no, sir. The only real difficulty is the one I mentioned, a substitution of the local people as the construction agency for the Bureau.

Mr. FENTON. You have the authorization?

Mr. NIELSEN. With the authorization from the Bureau.

Mr. FENTON. But they can fill it under that authorizaiton?

Mr. NIELSEN. That is right.

Mr. FENTON. What does that do to the Federal Government? Does it save them any money?

Mr. NIELSEN. You can get arguments both ways. We hold ourselves able to do a better job economically than others generally. The private interests who fathered this bill, let us say, feel otherwise. You can argue that.

Mr. FENTON. You have no idea?

Mr. NIELSEN. No, sir.

Mr. FENTON. You would not want to express an opinion?

Mr. NIELSEN. I will express my personal opinion, but I think it had best not be on the record.

Mr. FENTON. Take it off the record.

(Discussion off the record.)

Mr. FENTON. How much of a saving is there? They must save something?

Mr. NIELSEN. We have some pretty fair estimates of how much they do save.

Mr. BENNETT. Let us put it this way: You can save some construction funds by building to lower standards, but when you do that the effect of it is to increase the maintenance costs on the system so that, over a period of years, you would probably balance anyway.

Mr. NIELSEN. You could put on an asphalt-shingle roof or a clay-tile roof.

Mr. FENTON. Those are private irrigators?

Mr. NIELSEN. They are organized irrigation districts. They are not individuals.

Mr. FENTON. Irrigation districts within a project?

Mr. NIELSEN. Yes; within the Central Valley project.

Mr. FENTON. Within individual projects?

Mr. DOMINY. The Solano project is not part of the Central Valley project. The other four that Mr. Nielsen mentioned are units of the Central Valley project. In each case, including Solano, the Federal Government already has a water-supply contract to furnish water from major supply reservoirs and canals which we have or are building. It is only the distribution system that is being proposed for construction within the authority of Public Law 130 by the loan program rather than by the Bureau actually doing the construction.

Mr. FENTON. I wish you would also show in the record the size of those.

Mr. CROSTHWAIT. Solano project is about 70,000 acres.

Mr. FENTON. Supply that for the record later.

Mr. NIELSEN. We will do that.

(The material follows:)

The irrigable acreage of the districts involved in the immediate distribution system loan program are:

	Acres
Solano project: Solano Irrigation District	68,926
Central Valley project:	
Terra Bella Irrigation District	12,096
Porterville Irrigation District	15,645
Saucelito Irrigation District	18,530
Chowchilla Water District	58,125

Mr. FENTON. All of those irrigation districts are doing their own construction?

Mr. NIELSEN. Yes, sir.

Mr. FENTON. Is there any possibility of finding out any other districts that would like to do it themselves?

Mr. NIELSEN. Yes, sir. We expect more to pick up this authorization under Public Law 130. These are the five that are presently quite active. Others will be coming along.

NO SIGNED CONTRACTS TO DATE

Mr. JENSEN. The contract has not been signed with the irrigators on this project, has it?

Mr. NIELSEN. We do not have a consummated contract on file.

Mr. JENSEN. That is what I thought. So you have not yet expended a single dime? That is, you have not loaned anything?

Mr. NIELSEN. We have not loaned any money yet. We are lacking only the election on Salano to loan.

Mr. RABAUT. Could I ask a question there?

In case one of these irrigation districts makes a loan contract, who supervises it?

Mr. NIELSEN. We do. We have a pretty tight contract.

Mr. RABAUT. It is actually physically supervised by someone?

Mr. NIELSEN. We do not have any.

Mr. RABAUT. You intend to supervise the work?

Mr. NIELSEN. First, we intend to supervise his plans and specifications and then put on a reasonable amount of inspection as they go along with the work.

Mr. RABAUT. That is necessary. That will be a construction loan?

Mr. NIELSEN. Yes.

Mr. RABAUT. I did not think you would do it any other way. Then they might say they cannot finish the project for the money.

Mr. NIELSEN. We intend to watch it.

Mr. RABAUT. Any other questions?

LANGUAGE CHANGES

Now we come to the language changes.

Will you please insert pages BR–20 and BR–21 in the record?

CONSTRUCTION AND REHABILITATION

EXPLANATION OF CHANGE IN LANGUAGE PROPOSED FOR FISCAL YEAR 1958

Deletion of language in the second, third, fourth, and fifth provisos

Deletions are recommended of the language providing funds for fish protective facilities at Savage Rapids Dam, Oreg.; language providing funds for lighting of the spillway at Grand Coulee Dam; language providing funds for the protection of medicinal waters of Soap Lake, Wash.; and language providing funds to rehabilitate the works of the Hayden Lake unit, Rathdrum Prairie project. These provisions have served their purpose and need not be repeated in the annual appropriation act after fiscal year 1957.

Insertion of language pertaining to Arnold Irrigation District

Insertion of the proviso pertaining to the rehabilitation of the Arnold Irrigation District is proposed in order to authorize the use of funds appropriated in the fiscal year 1956 Appropriation Act for restoring deteriorated facilities to a point which will be within the means of the water users to operate. Following appropriation in the 1956 act of the money for this work under the rehabilitation and betterment program a solicitor's opinion was issued to the effect that since the Arnold project was privately built it does not technically qualify for aid under the act of October 7, 1949 (63 Stat. 724), as amended the authority under which rehabilitation and betterment work is performed. The proviso is recommended to correct that situation. It should be noted that additional funds will not be required, furthermore, that the entire cost of this work will be repaid by the water users with whom a contract will be executed before work is commenced.

Deletion of language pertaining to Moorhead Dam and Reservoir

Deletion is recommended of the language pertaining to the Moorhead Dam and Reservoir since further work has been indefinitely discontinued because of lack of support from local interests. There is no desire or intention on the part of the Department of the Interior to initiate construction until the report is submitted and approved by the Congress.

Deletion of language included in Second Supplemental Appropriation Act, 1957

Deletion is recommended of the language appearing in the Second Supplemental Appropriation Act, 1957, which provides additional funds for construction and rehabilitation. The language has served its purpose and need not be repeated after fiscal year 1957.

Mr. RABAUT. Other than the usual deletion of nonrecurring language, the only significant changes pertain to the insertion of language relating to the Arnold Irrigation District and the deletion of language concerning the Moorhead Dam.

You might explain the purpose of these two changes.

NEW LANGUAGE FOR ARNOLD IRRIGATION DISTRICT

Mr. GOLZE. Mr. Chairman, the Arnold Irrigation District is not a Federal reclamation project under Federal reclamation law and, therefore, is ineligible for work by the Bureau under the Rehabilitation and Betterment Act of 1949. In fiscal year 1956 Congress made available an appropriation for the Arnold district as part of our construction and rehabilitation item for that year. In working out the repayment contract, the attorneys held that the district was not eligible for work under that act. To make that district eligible for the work we are recommending to the committee, the language that is included in the budget as presented by the President and submitted to you.

Mr. RABAUT. Is the language going to be broad enough to cover other items, such as these, or is it just going to pertain to this one item?

Mr. GOLZE. It just pertains to the Arnold Irrigation District, sir.

DELETION OF LANGUAGE ON MOORHEAD DAM—PROJECT BEING ABANDONED

Mr. RABAUT. All right. What about the Moorhead Dam? You have a deletion there.

Mr. GOLZE. The language on the Moorhead Dam and Reservoir has been carried in our appropriation act going back for a number of years. There has been a prohibition in going ahead with this work there in view of the lack of local interest in this project, and the Bureau has no plans for going ahead with the work. It appears to be an encumbrance of unnecessary language in the bill.

Mr. RABAUT. Have local interests been notified?

Mr. BENNETT. Yes, sir; they have been notified and concerned congressional people have been notified. We have gone so far as to tell them that we are going to get rid of the camps there.

Mr. RABAUT. What is the cause of their disinterest in this?

Mr. BENNETT. The reservoir sets practically on the boundary between Wyoming and Montana. The dam itself is located in Montana and the reservoir area is located in Wyoming. The beneficiaries would all be in Montana and considerable amounts of hay meadows in Wyoming would be inundated so that they have consistently objected to the construction of the reservoir. We are unable to get them together.

Mr. RABAUT. Why do you request the language taken out? What is wrong with leaving it in?

Mr. GOLZE. It does not do any harm. It just takes up space and each year we have to go through the motions of answering questions about it.

Mr. BENNETT. The people who are interested in it agree with us reluctantly that there is nothing further we can do toward construction.

Mr. RABAUT. The people interested in it—you are referring to the people who are the beneficiaries?

Mr. BENNETT. Yes, sir.

Mr. RABAUT. They are agreeable now with you that the language should be taken out and it is a dead duck?

Mr. BENNETT. They agree that the project is a dead duck.

STATUS OF REHABILITATION AND BETTERMENT PROGRAM

Mr. JENSEN. Mr. Chairman, under the construction and rehabilitation, I just want to mention 1 or 2 things. I notice that summary tables are shown on BR–22, –23, and –24. That shows a list of construction and rehabilitation items for some 50 projects. You have thrown construction items and rehabilitation items altogether.

Mr. CROSTHWAIT. The rehabilitation and betterment is one item in that list. It is for all of the projects involved.

Mr. JENSEN. I see now. You have an item there of rehabilitation and betterment.

The reason I am interested in that is because of the fact that we are still rehabilitating, bettering a number of projects that were supposed to be completed in 1949 and I see several of those items still on the list for appropriations. I am wondering when the day is coming when those projects will be cleaned up and we will not be asked to appropriate money for them again after these many, many years, when the Bureau told us that if we appropriated such-and-such an amount—maybe it was 1948—that it would complete the job. Here we see a number of them still on the list for appropriations.

Mr. DOMINY. The original estimate was given to your committee as $25 million for what was then considered the rehabilitation and betterment required as a result of lack of proper maintenance and improvement of projects during the war years when labor and materials were scarce.

As of June 30, 1956, we have spent approximately $13 million of that $25 million estimate. We now show a total program of about $41.5 million. The increase is primarily due to the Salt River project having come in with a very much greater program than was originally contemplated. Most of that is betterment; however, their rehabilitation part having been pretty well covered in the original estimate——

Mr. JENSEN. Then you have jumped from $25 million to $41 million?

Mr. DOMINY. That is our present program.

Mr. JENSEN. Do you have authority under law to do that?

Mr. DOMINY. As I recall, sir, there was no limitation in the Rehabilitation and Betterment Act. We did give the Congress at the time that legislation was enacted an estimate of $25 million for the immediate problem as we then saw it. Since that time, the expanded Salt River project has been presented to the committees of Congress.

Mr. JENSEN. So you have operated since then and you are now operating on the theory that Congress appropriates the money authorized and you have authority to go ahead? Is that your thinking?

Mr. DOMINY. We understand the Rehabilitation and Betterment Act to be continuing legislation and as projects require and justify the need for betterment and rehabilitation, they are presented to this committee as part of our annual program. Of course, Mr. Jensen, we are not permitted to spend the money until it has been justified to the legislative committee as we have to present an appropriate repayment contract and have it cleared before we can spend the money even after it is appropriated.

Mr. JENSEN. Do you do it every year?

Mr. DOMINY. Every time we have a new contract commitment.

Mr. JENSEN. Every time you have a new contract commitment?

Mr. DOMINY. Yes, sir.

Mr. JENSEN. That would be for a new project to come under rehabilitation and betterment?

Mr. DOMINY. Either a new one, or an extension like the Salt River project, where they went from an original $6 million program and they asked for a $10 million additional program and signed a repayment contract to cover that. That contract was presented to the legislative committees for clearance: yes, sir.

Mr. JENSEN. So you think there will be an end sometime to the requests for funds for those projects that were supposed to be completed in fiscal year 1948 that are still on the list?

Mr. DOMINY. Let me put it this way: Under reclamation law we are required to get back, during the repayment period, up to the payment ability of the water users. We try to anticipate in that repayment ability calculations as to what is known as the normal operation and maintenance in order to keep the system in good repair and in good operating condition. However, there is a certain element of obsolescence that occurs and much of the work here is betterment rather than rehabilitation.

Mr. JENSEN. I realize that.

Mr. DOMINY. It is actually improving their system.

In the case of many of these projects——

Mr. JENSEN. Let me ask you right there, will all of this money that we appropriate for rehabilitation and betterment be reimbursable?

Mr. DOMINY. Yes, sir; every bit of it is returned to the Government. It is all reimbursable.

Mr. JENSEN. That is all, Mr. Chairman.

Mr. RABAUT. Within a 50-year period?

Mr. DOMINY. The law requires the Secretary of the Interior to get it back as rapidly as the payment ability of the water users will justify.

Mr. RABAUT. Anything in excess of 50 years-

Mr. DOMINY. He is not limited as to the term of years, Mr. Chairman. He is directed by Congress, in the legislation, to get it back concurrently with their existing obligations, if it is within their ability. If it is not, he is permitted to let them pay it out at the close of their existing contract.

Mr. RABAUT. To your knowledge, do any of them run over 50 years?

Mr. DOMINY. Only in the case of a few of the older projects where the rehabilitation was programed as part of a general financial and physical adjustment of the project.

Mr. RABAUT. That would be in the minority?

Mr. DOMINY. I believe in the minority; yes, sir.

Mr. RABAUT. You are not certain?

Mr. DOMINY. Dollarwise, certainly, and in this list here—let me look at it quickly—there are only 2 on this list that the repayment period for rehabilitation and betterment runs over a 50-year period.

Mr. RABAUT. Is it not the custom to run them over 50 years?

Mr. DOMINY. No, sir.

Mr. JENSEN. Mr. Chairman, along with some of the other members of the Interior Committee, I have felt that many of these projects could be financed by the water users in these regular projects by their local banks. I have felt that they could say they need so much money and, "We will sign a note here and do this job ourselves."

Mr. RABAUT. If they went to the bank they would have an interest rate to pay; would they not?

Mr. JENSEN. Sure.

Mr. RABAUT. Do they have one here?

Mr. JENSEN. That is it. I am satisfied that many of these rehabilitation and betterment projects would have gone forward under the financial ability of the irrigators to sign a note with their local banks, to get the money, run their own show to do the job, but we have been elected to do it so that this is it.

Mr. KIRWAN. How many of you have read the article in this week's Harpers? Did any of you read it?

It is very good. It is all about reclamation in the 17 Western States and gives a little bit of the history, what is there, something about the population, and so on.

Mr. JENSEN. Of course, the Interior Committee, as well as this committee, has always leaned over backward to be fair with the reclamation States. We realize they have a problem out there and the committee and the Congress, in my estimation, has recognized the financial ability of the water users of the West to carry on an irrigation project. I think that we have been very liberal with them and we have tried to be so, but there are times when we feel that some of them have not done as much as they should. I think it is because they know that Congress has been good to them and liberal with them.

I am not objecting to it, but I did want to state that.

Mr. RABAUT. The gentleman is just making a statement of fact, the way it exists.

Mr. JENSEN. That is right. We still recognize the problem that we have and we recognize the value of liquid gold, too; what we call water.

Mr. FENTON. On those irrigation projects that have paid out, that have paid their way over a period of 50 or 60 years, and they are through paying, if they want betterment or rehabilitation do they come under this program?

Mr. NIELSEN. I think they have ability under the law providing for rehabilitation and betterment to come in and request it. That initiative lies with them, you see. We have no real ability to deny them the benefits of that law. The Congress has authorized us to operate that way.

Mr. FENTON. That is what I am trying to get some information on. Would they be eligible? That is what I wanted to know.

Mr. NIELSEN. Generally speaking—and I think this is true in all cases—titles to those works lie in the United States. They have just been relieved of their payment for the properties.

Mr. FENTON. Whether they are worth a million dollars or two million dollars? They can come in and get interest-free money?

Mr. NIELSEN. The nominal titles to those works remain.

Mr. JENSEN. The Bureau of Reclamation has no other way to handle it? The Congress lays down the law and they say you can do this and the Bureau administers the law?

Mr. NIELSEN. We offer it to you as we see it.

Mr. FENTON. I am not saying you have any other recourse; I am just asking the question.

Mr. JENSEN. It is a good question.

Mr. FENTON. If they are worth millions of dollars, they can still come in and ask for interest-free money.

OPERATION AND MAINTENANCE

Mr. RABAUT. We will now take up the item for "Operation and maintenance."

At this point in the record, we will insert pages BR-30 to 41. (The pages follow:)

SOIL AND MOISTURE CONSERVATION PROGRAM

Summarized financial data

Total obligations, fiscal year 1956		$475,441
Fiscal year 1957 allotment	$836,600	
Total obligations, fiscal year 1957		836,600
Fiscal year 1958 allotment	$982,400	
Total obligations, fiscal year 1958		982,400

On a cost basis the 1958 program will total $981,900. The narrative justification, which follows, explains the 1958 cost program and the relation of costs to obligations.

JUSTIFICATION OF ESTIMATE

Location.—During the fiscal year 1958 soil and moisture conservation programs will be conducted on critical areas of 36 established reclamation projects and 13 units of the Missouri River Basin project at various locations throughout the 17 Western States.

Description.—The soil and moisture conservation operations are authorized under the provisions of the Soil and Moisture Conservation Act of April 27, 1935, and Reorganization Plan No. 4, dated April 11, 1940.

Soil and moisture conservation operations are directed toward the protection of public lands, under the jurisdiction of the Bureau of Reclamation, from wind and water erosion; the reduction within practical limits of abnormal moisture losses from Reclamation-controlled land and water areas; and the protection of Reclamation-built structures and works from the adverse effects of soil erosion.

This objective is accomplished by reconnaissance examination of Reclamation lands to determine prevalent conditions affecting soil and moisture losses and the development and application of plans which will aid in rectifying these conditions. Seeding or planting practices, structural installations, vegetation and pest control measures, and other activities may be included. The specific work undertaken may be of short duration designed for completion in a single season, an extensive program which can be completed only by carefully scheduled operations over a period of years, or a continuing program requiring annual treatment pending major change in land use, such as future settlement.

The Bureau of Reclamation is conducting a planned conservation program designed essentially to meet the threat of accelerated erosion on lands under its jurisdiction, protect Reclamation-built structures from deterioration or loss of efficiency resulting from erosion or its hyproducts and otherwise contribute to the reduction of soil and moisture losses from the areas involved.

To successfully carry out the measures required, funds are needed in proportion to the magnitude of the problems involved and wherever possible work should be started when corrective or preventive costs are at a minimum. Delay in treatment results in pyramiding ultimate treatment costs and unchecked erosion may continue to spread to a point where corrective costs become prohibitive and the use of the land is lost to the public and efficiency of installations is reduced.

Work proposed, fiscal year 1958, cost program.—The fiscal year 1958 program consists of a continuation of work of the foregoing nature conducted under the direct administrative guidance of the several regional offices having field jurisdiction over the areas involved. The technical services and abilities of all other agencies engaged in comparable activities are utilized through memorandums of agreement in order to maintain the maximum degree of program efficiency at the lowest practical cost.

During fiscal year 1958 soil and moisture conservation work will be carried on throughout the seven regions of the Bureau. Specific responsibility for program planning and effectuation will be exercised by the several regional directors with general administrative and technical liaison and supervision of overall program and policy matters being the responsibility of the Commissioner's staff. Soil and moisture conservation project distribution and fund requirements for fiscal year 1958 are as follows:

Region 1

Regional:	
Administration	$5,150
Participation in fire-prevention program on withdrawn lands	3,350
Boise project: Watershed improvement and protection and weed control on Government lands	10,500
Columbia Basin project: Wind-erosion control, noxious weed control on public lands, and water conservation and control	49,000
Minidoka project: Sand-dune-erosion control, noxious-weed control on public lands, and water conservation and control	23,000
Yakima project: Wind-erosion control and noxious-weed control demonstration on public lands and experimental channel protection	2,000
Contribution to civil-service retirement fund	300
Subtotal, region 1	93,300

Region 2

Regional: Supervision and planning of program	7,000
Central Valley project: Revegetation of public lands, erosion control and conservation surveys	117,800
Klamath project: Land-use management and revegetation of wind-eroded withdrawn lands	6,000
Contribution to civil-service retirement fund	6,400
Subtotal, region 2	137,200

Region 3

Gila project: Vegetative planting for soil stabilization and other wind erosion control and soil and water conservation	23,150
Salt River project: Salt cedar control studies and canal loss determinations	9,700
Bridge Canyon project: Little Colorado and minor watersheds inventory	2,000
Marble Canyon project: Inventory of Paria River watershed	23,550
Contribution to civil-service retirement fund	2,200
Subtotal, region 3	60,600

Region 4

Regional: Direction of program and investigations of erosion problems	15,000
Grand Valley project: Badger Wash Cooperative erosion and sedimentation study and waterways erosion control	1,500
Uncompahgre project: Channel erosion control and investigation of erosion problems and preparation of plans for conservation work	20,000
Provo River project, Utah: Erosion control on Deer Creek	5,000
Hyram project, Utah: Channel erosion control McMurdie Gulch	23,500
Dewey Reservoir site: Erosion control on withdrawn lands	10,000
Humboldt project: Cooperative vegetative rehabilitation study and cooperative tests for wild rose and salt cedar control	10,000
Eden Project, Wyoming: Control surface runoff and channel erosion and tests and demonstration of ditchbank seeding	5,000
Contribution to civil-service retirement fund	1,500
Subtotal, region 4	91,500

Region 5

Regional: Administration, supervision, and planning and surveys	14,000
Carlsbad project: Erosion control and demonstration of weed control and reseeding	31,000
Tucumcari project: Erosion control and demonstrations of weed control and reseeding	10,000
W. C. Austin project: Erosion control and demonstrations of weed control and reseeding	3,000

Vermejo project: Erosion control and demonstrations of weed control and reseeding	$3,000
Fort Sumner project: Erosion control and demonstrations of weed control and reseeding	3,000
Middle Rio Grande project: Investigations and surveys, erosion control and demonstrations of weed control and reseeding	43,000
Rio Grande project: Demonstrations of weed control and reseeding and salt cedar control	17,000
Balmorhea project: Demonstrations of weed control and reseeding and erosion control	3,000
Contribution to civil-service retirement fund	2,600
Subtotal, region 5	129,600

Region 6

Regional: Investigations and surveys	14,000
Regional: Electro-reclamation demonstrations and studies	20,000
Huntley project: Studies and demonstrations of canal linings, reclamation of heavy saline soils, and erosion control	11,500
Milk River project: Demonstrations of controlling canal bank erosion and revegetation	5,000
Missouri River Basin project: Erosion control, seepage studies, noxious weed control on Government lands, revegetation, and continued demonstrational work	39,000
Riverton project: Land use management, revegetative plantings, installation, maintenance and repair of Fivemile and Muddy Creeks control measures	169,200
Shoshone project: Erosion and noxious weed control and land rehabilitation	48,000
Sun River project: Revegetation, water loss, and canal lining studies	5,000
Contribution to civil-service retirement fund	6,100
Subtotal, region 6	317,800

Region 7

North Platte project: Conservation and land-management practices, canal protective works, and ground water and seepage investigations	56,100
Kendrick project: Erosion control and conservation practices and seepage and ground water investigations	6,000
Missouri River Basin project: Land treatment, watershed studies, and irrigation system protective works	46,000
Mirage Flats project: Reservoir area and irrigation system protective works	9,000
Colorado-Big Thompson project: Land treatment and reservoir and canal protective works	10,000
Contribution to civil-service retirement fund	2,300
Subtotal, region 7	129,400
Washington office, administration	10,000
Denver offices, administration and laboratory	15,000
Contribution to civil-service retirement fund	300
Subtotal, Washington and Denver	25,300
Total, soil and moisture conservation cost	984,700
Transfers, credits, and other expenditures: Represents depreciation of equipment and contributions of labor, materials, etc	−2,800
Total cost to appropriation	981,900

Reconciliation to total obligations

Cost adjustments: Acquisition of minor equipment	$500
Total obligations	982,400

	Fiscal year			
	1956	1957	1958	1959
Region 1	$39,810	$76,000	$93,300	$112,400
Region 2	43,787	50,000	137,200	137,200
Region 3	38,847	65,700	60,600	83,200
Region 4	38,396	94,400	91,500	67,000
Region 5	74,156	125,000	127,600	143,000
Region 6	159,583	276,000	317,500	291,000
Region 7	70,370	127,000	129,400	129,400
Washington office	8,500	7,500	10,000	10,000
Denver office	1,992	15,000	15,300	15,300
Total obligations	475,441	836,600	982,400	988,500

OPERATION AND MAINTENANCE

Halogeton Control Operations

Summarized financial data

Total obligations, fiscal year 1956	$44,862
Fiscal year 1957 allotment	$75,000
Total obligations, 1957	75,000
Fiscal year 1958 allotment	$75,800
Total obligations, 1958	75,800

On a cost basis, the 1958 program will total $75,800. The narrative justification which follows explains the 1958 cost program.

JUSTIFICATION OF ESTIMATE

Location.—The known halogeton infestations on Bureau lands are located principally in Wyoming, Montana, Idaho, Nevada, Colorado, and Utah. The present and proposed surveys are designed to continue to locate the infestations more accurately and obtain data on which future control programs can be based. However, it is estimated that at least 200,000 acres of Bureau lands and probably considerably more are infested to a more or less degree.

Description.—The halogeton control operations are authorized under the provisions of the Halogeton Glomeratus Control Act of July 14, 1952, Public Law 529, 82d Congress, chapter 721, second session, which states that it shall be the policy of the Federal Government to control, suppress, and eradicate this weed, poisonous to livestock, on lands in the several States. The act authorized the Secretary of the Interior to conduct surveys to detect the presence of halogeton glomeratus, to determine the measures necessary to control, suppress, and eradicate this weed, and to plan, organize, direct, and effect such measures as deemed necessary to the lands under his jurisdiction to carry out the purposes of this act.

Work proposed, fiscal year 1958 cost program.—The requested appropriation of $75,800 is needed to finance, during fiscal year 1958, the surveys necessary to locate infestations on lands under the jurisdiction of the Bureau, to determine most effective methods of control, to conduct spraying and seeding programs to control known infestations in cooperation with other agencies, and for travel and incidental costs of the office of the Commissioner.

It has been possible to keep the appropriation requested for this program to a minimum because the Bureau will continue to cooperate fully with other agencies, especially the Bureau of Land Management which already has a well established program including equipment and trained crews of workmen. The Bureau will also cooperate with the Department of Agriculture, and the State Agricultural Experiment Stations in research for determining the most effective and economical halogeton control measures. Findings will be applied to the Bureau's program. The results obtained so far indicate that certain chemical sprays are

effective for controlling small new infestations. Seeding the areas to competitive grasses aids in crowding out large infestations and at the same time improve the forage on range areas.

The fiscal year 1958 program and allotment estimate is as follows:

Region 1

Field surveys to determine location and extent of infestations, aid in research program, and for control measures	$4,900
Contribution to civil service retirement fund	100
Subtotal, region 1	5,000

Region 4

Regionwide surveys and investigations, control measures on withdrawn and acquired lands, and cooperation with research programs	35,000
Contribution to civil service retirement fund	500
Subtotal, region 4	35,500

Region 6

Surveys for locating infestations, spraying, and seeding programs and cooperative investigations	30,000
Contributions to civil service retirement fund	300
Subtotal, region 6	30,300
Washington office—Travel and incidental coordinating activities	5,000
Total, halogeton cost	75,800
Total cost to appropriation	75,800

Reconciliation to total obligations

Cost adjustments	------
Total obligations	75,800

Halogeton control program

Program item	Fiscal year			
	1956	1957	1958	1959
Region 1	$4,757	$5,000	$5,000	$5,000
Region 4	12,930	30,000	35,500	35,500
Region 6	27,175	35,000	30,300	33,300
Washington office	------	5,000	5,000	5,000
Total obligations	44,862	75,000	75,800	78,800

Operation and maintenance allotments and funds advanced

State	Project	Allotments			Funds advanced			Total project		
		Actual fiscal year 1957	Estimate fiscal year 1958	Increase (+) or decrease (−)	Fiscal year 1957	Fiscal year 1958	Increase (+) or decrease (−)	Fiscal year 1957	Fiscal year 1958	Increase (+) or decrease (−)
Alaska	Eklutna	$255,000	$267,300	+$12,300				$255,000	$267,300	+$12,300
Arizona	Gila	462,130	473,400	+11,270	$94,838	$118,516	+$23,678	556,968	591,916	+34,948
Arizona-California	Imperial Dam	46,000	49,600	+3,600				46,000	49,600	+3,600
	Yuma	140,000	172,300	+32,300	33,250	36,000	+2,750	173,250	208,300	+35,050
Arizona-California-Nevada	Colorado River Front Work and Levee System	1,285,000	1,563,900	+278,900				1,285,000	1,563,900	+278,900
	Parker-Davis	2,188,860	2,296,300	+107,440	170,075	163,250	−6,825	2,358,935	2,459,550	+100,615
Arizona-Nevada	Boulder Canyon	1,470,000	1,407,900	−62,100				1,470,000	1,407,900	−62,100
	Boulder City, Nev	645,000	636,700	−8,300				645,000	636,700	−8,300
California	Cachuma	70,000	58,100	−11,900				70,000	58,100	−11,900
	Central Valley	5,125,000	5,325,300	+200,300				5,125,000	5,325,300	+200,300
	Kings River	12,000	7,800	−4,200		7,500	+7,500	12,000	15,300	+3,300
Colorado	Colorado-Big Thompson	876,540	623,500	−303,040		189,100	+189,100	876,540	812,600	−113,940
	San Luis Valley	8,000	8,000					8,000	8,000	
Idaho	Palisades	176,600	424,300	+247,700				176,600	424,300	+247,700
Idaho-Oregon	Boise	327,000	333,900	+6,900	40,000	43,600	+3,600	367,000	377,500	+10,500
Idaho-Wyoming	Minidoka	683,000	842,500	+159,500	154,500	145,900	−8,600	837,500	988,400	+150,900
Montana	Hungry Horse	422,000	494,200	+72,200				422,000	494,200	+72,200
	Milk River	2,600	2,600		38,400	35,800	−2,600	41,000	38,400	−2,600
Nebraska-Wyoming	North Platte	179,000	193,000	+14,000	90,000	103,500	+13,500	269,000	296,500	+27,500
New Mexico	Carlsbad	3,000	3,750	+750	9,000	8,250	−750	12,000	12,000	
	Middle Rio Grande	220,000	257,000	+37,000	823,100	[1] 858,400	+35,300	1,043,100	1,115,400	+72,300
New Mexico-Texas	Rio Grande	788,000	471,490	−316,510	759,000	1,006,800	+247,800	1,547,000	1,478,290	−68,710
Oklahoma	W. C. Austin	2,040	2,060	+20	6,260	6,340	+80	8,300	8,400	+100
Oregon-California	Klamath	395,000	48,700	−346,300	57,000	103,000	+46,000	452,000	151,700	−300,300
Texas	Falcon	10,000	10,000					10,000	10,000	
Utah	Provo River		14,800	+14,800	8,123	7,300	−823	8,123	22,100	+13,977
Washington	Columbia Basin	4,162,000	4,389,600	+227,600				4,162,000	4,389,600	+227,600
	Yakima	56,000	113,700	+57,700	502,500	538,700	+36,200	558,500	652,400	+93,900
Wyoming	Kendrick	284,000	276,600	+42,600		5,000	+5,000	284,000	281,600	+47,600
	Riverton	114,000	123,600	+9,600				114,000	123,600	+9,600
	Shoshone	195,600	206,700	+11,100	5,400	4,400	−1,000	201,000	211,100	+10,100
Various	Missouri River Basin project	5,752,030	6,181,200	+429,170	6,800	5,700	−1,100	5,758,830	6,186,900	+428,070
	Soil and moisture	836,600	982,400	+145,800				836,600	982,400	+145,800
	Halogeton	75,000	75,800	+800				75,000	75,800	+800
	Projects financed entirely with funds advanced				173,595	217,730	+44,135	173,595	217,730	+44,135
	Total	27,267,000	28,338,000	+1,071,000	2,971,841	3,604,786	+632,945	30,238,841	31,942,786	+1,703,945

[1] Includes $57,100 in fiscal year 1957 and $75,400 in fiscal year 1958 advanced by the State of New Mexico.

Operation and maintenance costs, by functions, fiscal years 1957 and 1958

State	Project	Irrigation		Power		Flood control		Other [1]		Contribution to civil service retirement fund, fiscal year 1958 only
		Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	
Alaska	Eklutna			$255,000	$255,300					$12,000
Arizona	Gila	$594,138	$576,269							14,000
Arizona-California	Yuma	304,973	177,300	25,100	29,100					4,800
Arizona-California-Nevada	Parker-Davis			2,440,087	2,410,202					121,700
Arizona-Nevada	Boulder Canyon			1,470,000	1,342,900					65,000
California	Cachuma							$70,000	$57,100	1,000
	Central Valley	3,354,201	3,003,326	2,479,909	2,416,200			316,953	275,726	200,000
	Kings River	12,000	15,000							300
Colorado	Colorado-Big Thompson	147,000	181,000	810,290	639,600	$1,000	$1,000			36,000
	San Luis Valley	4,800	4,600			3,200	3,100			300
Idaho	Palisades	3,000	13,600	155,100	363,900	10,500	19,500			7,300
Idaho-Oregon	Boise	40,000	43,000	359,500	319,400	6,500	6,600			9,500
Idaho-Wyoming	Minidoka	562,200	698,000	1,240,222	1,095,000					24,400
Montana	Hungry Horse			442,785	478,835	24,200	24,200	7,540	9,540	21,200
	Milk River	38,400	34,400			2,600	2,600			1,400
Nebraska-Wyoming	North Platte	90,000	100,000	457,000	452,000	1,000	1,000			12,500
New Mexico	Carlsbad	9,000	7,950			3,000	3,000			450
	Middle Rio Grande	766,000	766,000			324,000	340,000			24,000
New Mexico-Texas	Rio Grande	816,500	1,025,300	778,320	418,280	12,730	11,760			54,300
Oklahoma	W. C. Austin	7,260	7,050			2,040	1,950			400
Oregon-California	Klamath	478,312	146,000							5,700
Texas	Falcon			10,000	9,500					500
Utah	Provo River	8,629	7,400		15,100					1,000
Washington	Columbia Basin	1,745,358	1,985,000	2,844,460	2,605,000	6,000	6,000	414,712	339,000	204,600
	Yakima	508,500	561,700	56,000	72,000					23,400
Wyoming	Kendrick, 1st unit	80,000	45,000	261,414	226,000					14,600
	Riverton	51,750	55,550	69,066	69,000			150	150	3,600
	Shoshone	75,852	74,754	126,034	122,629	4,342	4,342			7,200
Various	Missouri River Basin project	378,134	378,596	6,132,035	6,888,653	174,486	148,353	20,189	21,402	159,700
	Projects financed entirely with funds advanced	177,399	197,160					3,650	32,750	6,200
	Subtotal	10,253,406	10,103,955	20,412,322	20,228,599	575,598	574,005	833,194	735,668	1,037,050
Other operation and maintenance activities	Boulder City, Nev.									30,500
	Imperial Dam									1,000
	Colorado River front work and levee system									59,500
	Soil and moisture									21,700
	Halogeton									900
	Total									1,150,650

See footnote on p. 445.

Operation and maintenance costs, by functions, fiscal years 1957 and 1958—Continued

State	Project	Future year capacity provisions, contributions, transfers, credits, and other expenditures		Total cost to appropriation and funds advanced		Cost adjustments		Total obligations	
		Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958
Alaska	Eklutna			$255,000	$267,300			$255,000	$267,300
Arizona	Gila	−$49,541	−$23,900	544,597	566,389	+$12,371	+$25,547	556,968	591,916
Arizona-California	Yuma	+941	−2,900	331,014	208,300	−157,764		173,250	208,300
Arizona-California-Nevada.	Parker-Davis	−37,235	−69,352	2,402,852	2,462,550	−43,917	−3,000	2,358,935	2,459,550
Arizona-Nevada	Boulder Canyon			1,470,000	1,407,900			1,470,000	1,407,900
California	Cachuma			70,000	58,100			70,000	58,100
	Central Valley	−749,885	−594,952	5,401,178	5,300,300	−276,178	+25,000	5,125,000	5,325,300
	Kings River			12,000	15,300			12,000	15,300
Colorado	Colorado-Big Thompson	−70,000	−70,000	888,290	787,600	−11,750	25,000	876,540	812,600
	San Luis Valley			8,000	8,000			8,000	8,000
Idaho	Palisades			168,600	404,300	+8,000	+20,000	176,600	424,300
Idaho-Oregon	Boise	−7,000	+1,000	399,000	379,500	−32,000	−2,000	367,000	377,500
Idaho-Wyoming	Minidoka	−851,000	−829,000	951,422	988,400	−113,922		837,500	988,400
Montana	Hungry Horse	−52,525	−39,575	422,000	494,200			422,000	494,200
	Milk River			41,000	38,400			41,000	38,400
Nebraska-Wyoming	North Platte	−279,000	−269,000	269,000	296,500			269,000	296,500
New Mexico	Carlsbad			12,000	12,000			12,000	12,000
	Middle Rio Grande	−104,000	−90,000	986,000	1,040,000	+57,100	75,400	[2] 1,043,100	[2] 1,115,400
New Mexico-Texas	Rio Grande	−37,550	−37,550	1,570,000	1,472,090	−23,000	6,200	1,547,000	1,478,290
Oklahoma	W. C. Austin	−1,000	−1,000	8,300	8,400			8,300	8,400
Oregon-California	Klamath			478,312	151,700	−26,312		452,000	151,700
Texas	Falcon			10,000	10,000			10,000	10,000
Utah	Provo River	−429	−1,400	8,200	22,100	−77		8,123	22,100
Washington	Columbia Basin	−715,000	−750,000	4,295,530	4,389,600	−133,530		4,162,000	4,389,600
	Yakima	−5,000	−4,700	559,500	652,400	−1,000		558,500	652,400
Wyoming	Kendrick, 1st unit	−39,500	−4,000	301,914	281,600	−17,914		284,000	281,600
	Riverton	−5,103	−4,700	115,863	123,600	−1,863		114,000	123,600
	Shoshone	+1,894	+2,175	208,122	211,100	−7,122		201,000	211,100
Various	Missouri River Basin project	−880,849	−1,451,300	5,823,995	6,145,404	−65,165	+41,496	5,758,830	6,186,900
	Projects financed entirely with funds advanced	−1,891	−18,380	179,158	217,730	−5,563		173,595	217,730
	Subtotal	−3,883,673	−4,258,534	28,190,847	28,420,743	−839,606	+213,643	27,351,241	28,634,386
Other operation and maintenance activities.	Boulder City, Nev			676,441	641,700	−31,441	−5,000	645,000	636,700
	Imperial Dam			46,000	49,600			46,000	49,600
	Colorado River front work and levee system			1,315,446	1,583,900	−30,446	−20,000	1,285,000	1,563,900
	Soil and moisture			856,236	981,900	−19,636	+500	836,600	982,400
	Halogeton			79,711	75,800	−4,711		75,000	75,800
	Total			31,164,681	31,753,643	−925,840	+189,143	[1] 30,238,841	[1] 31,942,786

[1] These totals include the following:

		Municipal and industrial water		Fish and wildlife		Recreation		Transitional development		Town of Coulee Dam		Nonutility operation		Reimbursable water service contracts		Total other	
		Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958	Fiscal year 1957	Fiscal year 1958
California	Cachuma													$70,000	$57,100	$70,000	$57,100
	Central Valley	$316,953	$275,726													316,953	275,726
Montana	Hungry Horse											$7,540	$9,540			7,540	9,540
Washington	Columbia Basin									$414,712	$339,000					414,712	339,000
Wyoming	Riverton			$150	$150											150	150
Various	Missouri River Basin project	1,018	2,955	7,181	7,527	$11,990	$10,920									20,189	21,402
	Projects financed entirely with funds advanced	3,650	22,750						$10,000							3,650	32,750
	Total	321,621	301,431	7,331	7,677	11,990	10,920		10,000	414,712	339,000	7,540	9,540	70,000	57,100	833,194	735,668

[2] Includes $57,100 in fiscal year 1957 and $75,400 in fiscal year 1958 advanced by the State of New Mexico.

SOIL AND MOISTURE CONSERVATION PROGRAM ON PUBLIC LANDS

Mr. RABAUT. I note that $982,400 is asked for the soil and moisture conservation program with an increase of $145,800. What progress are you making with this program?

Mr. NIELSEN. Mr. Dominy will handle that, Mr. Chairman.

Mr. DOMINY. We think we are making very good progress on water saving and soil saving on the Federal lands tied in with the Federal-reclamation program, Mr. Chairman. We believe this is a very worthwhile corollary to a general soil-conservation program of the Federal Government.

Mr. RABAUT. Why is the increase necessary at this time considering that the program was increased by $361,000 this year?

Mr. DOMINY. A few years ago we advised the committee that the Department did wish to expand its soil and moisture conservation program generally on the public lands and under the direction of the Interior Department. This is a fairly minor increase over last year's program. It follows that with increased emphasis on this kind of work this should be so.

GENERAL ADMINISTRATIVE EXPENSES, BUREAU OF RECLAMATION

Mr. RABAUT. General administrative expenses. We will insert pages BR–49 and 53 to 57, inclusive, in the record.

(The pages follow:)

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Departmental and Denver offices	$2,051,145	$2,237,175	$2,393,000
2. Regional offices	1,653,620	1,707,463	1,850,900
Total program costs	3,704,765	3,944,638	4,243,900
3. Relation of costs to obligations:			
(a) Costs financed from obligations of other years, net (−)		−2,638	−1,900
(b) Obligations incurred for costs of other years, net	11,441		
Total program (obligations)	3,716,206	3,942,000	4,242,000
Financing: Unobligated balance no longer available	43,794		
Appropriation	3,760,000	3,942,000	4,242,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
Total number of permanent positions	465	468	471
Full-time equivalent of all other positions	1	1	1
Average number of all employees	460	479	482
Number of employees at end of year	464	475	478
Average salaries and grades:			
General schedule grades:			
Average salary	$5,255	$5,363	$5,448
Average grade	GS-7.3	GS-7.4	GS-7.4
Ungraded: Average salary	$4,485	$4,625	$4,709
01 Personal services:			
Permanent positions	$3,240,138	$3,431,501	$3,496,031
Positions other than permanent	8,055	5,570	4,380
Regular pay above 52-week base	11,917		13,387
Payment above basic rates	11,347	9,430	9,510
Total personal services	3,271,457	3,446,501	3,523,308
02 Travel	191,312	230,331	233,778
03 Transportation of things	9,000	15,625	14,875
04 Communication services	63,960	72,410	73,488
05 Rents and utility services	3,626	5,605	5,305
06 Printing and reproduction	22,708	21,555	22,090
07 Other contractual services	48,129	47,395	43,694
Services performed by other agencies	26,495	27,775	28,850
08 Supplies and materials	37,723	38,063	38,847
09 Equipment	38,062	32,390	32,395
11 Grants, subsidies, and contributions: Contribution to retirement fund			222,000
13 Refunds, awards, and indemnities	3,409	3,950	3,960
15 Taxes and assessments	325	400	410
Total obligations	3,716,206	3,942,000	4,242,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation: Reclamation fund, special fund	$3,760,000	$3,942,000	$4,242,000
Obligated balance brought forward	265,803	198,649	240,822
Restored from certified claims account		173	
Total budget authorizations available	4,025,803	4,140,822	4,482,822
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	3,517,635	3,710,000	3,800,000
Out of prior authorizations	253,235	190,000	200,000
Total expenditures	3,770,870	3,900,000	4,000,000
Balance no longer available:			
Unobligated (expiring for obligation)	43,794		
Other	12,490		
Obligated balance carried forward	198,649	240,822	482,822
Total expenditures and balances	4,025,803	4,140,822	4,482,822

GENERAL ADMINISTRATIVE EXPENSES

Appropriation Act, 1957	$3,942,000	
Total available, 1957	3,942,000	
Increase in base due to Government's contribution to the retirement fund	222,000	
Adjusted appropriation		$4,164,000
Decreases: None		
Base, 1958		4,164,000
Increases:		
Commissioner's offices in Washington, D. C., and Denver, Colo.	$31,100	
Regional offices	46,900	
		78,000
Budget estimate, 1958		4,242,000

GENERAL STATEMENT

The Bureau is requesting an appropriation of $4,242,000 to finance its general administrative expenses during fiscal year 1958. Of this amount, $222,000 represents the Bureau's contribution to the civil-service retirement fund as required by Public Law 854, 84th Congress. Excluding this contribution, the request totals $4,020,000. This is $78,000 more than was appropriated for fiscal year 1957, an increase of less than 2 percent. This increase is required to meet increases in travel costs and other minor increases incident to rising prices. No increase in personnel is contemplated.

The importance of this appropriation to the Bureau is measured by the scope of its 3 major programs. In fiscal year 1958 the Bureau will administer a construction and rehabilitation program on 75 projects and Missouri River Basin units, an investigation program for some 134 projects, including Missouri River Basin units, and participating projects on the Colorado River storage project and operation and maintenance of 54 projects and Missouri River Basin units. In addition, there are 68 completed projects operated in whole or in part by the water users.

The steady growth of reclamation in the Western States places upon the Bureau increasing responsibilities for proper supervision of these expanding facilities and adequate protection of the Federal investment. At the present time, the Bureau is responsible for the protection of a Federal investment in completed facilities valued at close to $3 billion, and with a continuing construction program of over $150 million a year this responsibility is rapidly increasing. Because of the increasing burden entailed in the operation and maintenance of this expanded physical plant, general administration requirements are actually greater than can be financed from the "General administrative expenses" appropriation under the present limited concept and scope of this appropriation. As indicated above, there are 68 completed projects operated in whole or in part by the water users. Liaison with the water users' organizations and management review of their operations is a Bureau responsibility. Some 414 power marketing contracts were in existence on December 1, 1956, and 171 more are in the process of negotiation. Under these contracts, the Bureau markets more kilowatt-hours of electricity per year than any other single organization in the world.

The performance of these general overall management-type functions is a proper charge against the general administrative expenses appropriation. In fact such operation and maintenance administration costs are specifically authorized in the administrative provisions of the Bureau's annual appropriation language. These general functions are nonreimbursable, not being for the benefit of a particular project, but to enable the management organization of the Bureau to exercise properly its responsibility for safeguarding the Federal investment in reclamation.

Functions and activities properly chargeable to this appropriation are—

1. Direction of the several programs of the Bureau.
2. Determination of policy standards and requirements for performance of the Bureau's programs.
3. Development of procedures for review and control of the Bureau's program.

4. Overall supervision of methods and objectives of work execution activities.
5. Coordination of the overall phases of the Bureau's engineering and administrative activities.
6. Coordination of the Bureau's programs with the programs of other agencies, public and private, having interests in the same areas of conservation and resources development.
7. Management review of projects turned over to the water users.

On the basis of the above criteria for determining general administrative expenses, the Office of the Commissioner in Washington falls entirely under this appropriation. Some of the organizations and functions of the Commissioner's Office in Denver are of such character that they, too, come under "General administration." At the regional office level general administrative work constitutes an important part of the service performed by the headquarters staff.

COMMISSIONER'S OFFICE IN WASHINGTON AND DENVER

The estimate of $4,242,000 includes $2,393,000 for allocation to the Commissioner's Office in Washington, D. C., and Denver, Colo. Of this amount, however, $122,000 is required to pay for the Government's share of the contribution to the civil-service retirement fund. Excluding this differential the increase over 1957 is $31,100. This increase is required to meet an increase in travel costs and other minor increases incident to rising costs. No increase in positions is contemplate.

The major portion of the expense required to maintain the Commissioner's Office in Denver, Colo., is incurred in rendering technical assistance and services to field offices, projects, and activities, and is financed separate and apart from the "General administrative expense" appropriation. In fiscal year 1958, as heretofore, these services will be financed by transfer of funds from project and activity allotments on a program basis. The obligations for these transfers are included on the project schedules. A majority of such funds will be transferred from the "Construction and rehabilitation" appropriation, although some funds will be transferred from the "Operation and maintenance" and "General investigations" apporpriations. The advance of funds will be based on the project or activity program that governs the amount of planning, design, laboratory analysis, and related work which the Denver office will be required to perform for each such project or activity.

Bureau construction often is of a scale which requires the engineering design work to extend over a period of years. The activities of the Denver offices, therefore, do not tie directly to the construction program in the field for any given fiscal year. Design work usually precedes construction by a year or more. Year-to-year increases or decreases in the Bureau's field programs are reflected in Denver only in partial ratio in any given year. Work to be performed in the Denver offices during fiscal year 1958 other than that charged to "General administrative expenses" is estimated at $10,891,000.

REGIONAL OFFICES

The regional offices estimate for general administrative expenses for fiscal year 1958 is $1,849,000 of which $100,000 represents the Government's contribution to the civil-service retirement fund. Excluding this amount the increase over fiscal year 1957 is $46,900. This increase is required to finance activities relating to the administration of contracts covering irrigation facilities that have been turned over to the water users during fiscal year's 1956 and 1957.

In addition to these administrative responsibilities of the regional office there are certain types of work required for the direct benefit of a project or other activity which is performed more economically and efficiently on a centralized basis. Where circumstances permit and to avoid duplication of project office staffs the Bureau maintains centralized organizations for the performance of such work. By this means the Bureau can supply the skilled services required in the various technical fields at reasonable costs to the several projects or activities controlled by the central office.

Since the centralized project activity work is performed for the direct benefit of projects, such work is financed through advances from those project allotments financing the work programed, and the obligations for which are included on the schedules of such projects.

Work of this nature to be performed during fiscal year 1958 is estimated at $5,276,300.

Itemization of estimate—General administrative expenses

	Estimate, 1957	Estimate, 1958	Difference, increase (+) or decrease (−), 1958 compared with 1957
Program and financing:			
Total obligations	$3,942,000	$4,242,000	+$300,000
Appropriation	3,942,000	4,242,000	+300,000
Obligations by objects:			
01 Personal services	3,446,501	3,523,308	+76,807
02 Travel	230,331	232,778	+2,447
03 Transportation of things	15,625	14,875	−750
04 Communication services	72,410	73,488	+1,078
05 Rents and utility services	5,605	5,305	−300
06 Printing and reproduction	21,555	22,090	+535
07 Other contractual services	47,395	43,694	−3,701
Services performed by other agencies	27,775	28,850	+1,075
08 Supplies and materials	38,063	38,847	+784
09 Equipment	32,390	32,395	+5
11 Grants, subsidies, and contributions:			
Contribution to retirement fund		222,000	+222,000
13 Refunds, awards, and indemnities	3,950	3,960	+10
15 Taxes and assessments	400	410	+10
Total obligations	3,942,000	4,242,000	+300,000

INCREASE FOR WITHIN-GRADE PROMOTIONS

Mr. RABAUT. In addition to retirement costs, the justifications state on page 53 that you have an incerase of $78,000 which is requested for travel and other minor increases incident to rising prices. Yet on page 57 you show an increase of only $2,447 which is shown for travel and $76,807 for personnel. Which one of these is correct?

Mr. CROSTHWAIT. Mr. Chairman, that first general statement is incorrect. The increase of $76,807 in 1958 is primarily in personnel. It is made up of in-grade promotions for people on the rolls who are stable people and among whom we have very few changes. We are not able to make up the total in-grade promotions through our lapses.

There are also three positions being transferred to this appropriation from our regional offices where they have heretofore been paid from project funds. They are primarily to cover work on projects turned over to the water users.

Mr. RABAUT. Are there any new personnel?

Mr. CROSTHWAIT. We are changing three people from one roll to another.

Mr. RABAUT. I know about that. Are there any others?

Mr. CROSTHWAIT. No others.

Mr. RABAUT. How many people are affected by this $76,807?

Mr. CROSTHWAIT. There are 478 people in our headquarters offices, including our headquarters office in Denver.

Mr. RABAUT. You may correct the figure later, if you wish.

Mr. CROSTHWAIT. Yes, it is approximately that number in the seven regions.

TRAVEL FUNDS AVAILABLE

Mr. RABAUT. What are the total travel funds available to the regional offices for the current year and what is estimated for 1958?

Mr. CROSTHWAIT. I do not have a breakdown of the amount that is available for travel in the regions. However, the total amount allocated to the regions, I do have.

Mr. RABAUT. You do not know if it is spent or not?

Mr. CROSTHWAIT. No, it is allocated. The indications are that it will be spent, practically all of it through June 30. The estimated carryover——

Mr. RABAUT. I hope the Department will take cognizance of the type of questions asked here and come up with more information for the committee in the future. Every group comes here and says, "We will have zero at the end of the year," and then we have to be the judge as to how much you spend up to a certain date.

What is the total of all travel funds from all sources available to the regional offices? Do you have that?

Mr. CROSTHWAIT. No, sir.

Mr. RABAUT. Let us go off the record for a moment.

(Discussion off the record.)

Mr. RABAUT. You can supply that later for the record, if you will.

Mr. CROSTHWAIT. Yes, sir.

(The material follows:)

Travel costs in the regional offices for fiscal years 1957 and 1958 from all sources are as follows:

	1957	1958
General administrative expenses	$85,131	$85,178
Advances from other appropriations for centralized project activities:		
General investigations	26,895	28,608
Construction and rehabilitation	88,026	80,798
Operation and maintenance	37,996	38,978
Fort Peck continuing fund	2,300	2,600
Upper Colorado River Basin fund	14,816	17,297
Total	255,164	253,459

INCREASED FUNDS FOR DENVER OFFICE

Mr. RABAUT. The committee was told that the Denver office would perform work in 1957 estimated at $8,747,000 in addition to that charged to general administrative expenses. The estimate for 1958 is $10,891,000. What accounts for the increase of over $2 million?

Mr. CROSTHWAIT. The increase, sir, is due to the increased design program, and much of it is being generated by the upper Colorado design work.

Mr. RABAUT. Give us a little breakdown of it for the record.

Mr. CROSTHWAIT. Yes, sir.

(The information follows:)

Funds scheduled to be advanced to Chief Engineer's office, Denver, Colo., from allotments to projects are:

	1957	1958	Difference, increase (+) or decrease (−), 1958 compared to 1957
General investigations	$273,500	$373,600	$100,100
Construction and rehabilitation	7,145,000	6,432,000	−713,000
Operation and maintenance	185,900	177,400	−8,500
Emergency fund	10,000		−10,000
Upper Colorado River Basin fund	[1] 2,404,000	3,908,000	1,504,000
Continuing fund for emergency expenses, Fort Peck project, Montana	2,500		−2,500
Total	[1] 10,020,900	10,891,000	870,100

[1] The amount of $8,747,000 for fiscal year 1957 referred to by the chairman does not include advances from the upper Colorado River Basin fund. The 1957 appropriation for the upper Colorado River Basin fund was considered subsequent to the House committee hearings on the Bureau's regular appropriation estimates.

Language Changes

Mr. Rabaut. We next come to the language changes on pages BR–58 to 61. We will insert those pages in the record at this point.

(The pages follow:)

Administrative Provisions

EXPLANATION OF CHANGE IN LANGUAGE PROPOSED FOR FISCAL YEAR 1958

Change in language pertaining to purchase of passenger-carrying vehicles

It is recommended that the Bureau be authorized to replace 175 passenger-carrying vehicles during fiscal year 1958, and to acquire by purchase 1 bus and 1 ambulance without replacement.

At the beginning of fiscal year 1955, our passenger-carrying fleet had been reduced to a total of 1,082 vehicles—a reduction of 531 vehicles in fiscal year 1954. During fiscal year 1955 we disposed of 121 automobiles and 102 station wagons, a total of 223 passenger-carrying vehicles, leaving on hand at the beginning of fiscal year 1956 a total of 859 passenger-carrying vehicles. In fiscal year 1956 we further reduced the passenger-carrying fleet by disposing of 2 automobiles and 20 station wagons, leaving a total of 837 vehicles in these 2 categories, 4 ambulances and 3 buses, or a total of 844 on hand at the beginning of fiscal year 1957. During fiscal year 1956, 242 passenger-carrying vehicles were replaced. We were authorized to replace 75 vehicles during fiscal year 1957, including 2 buses. This replacement is underway.

Summary—Passenger-carrying vehicle reduction by fiscal years excludes buses and ambulances

	On hand beginning of fiscal year	Reduced during fiscal year	On hand end of fiscal year
1954	1,613	531	1,082
1955	1,082	223	859
1956	859	22	837
1957	837	[1] 87	[1] 750

[1] Estimated.

We plan to reduce the passenger-carrying fleet during fiscal year 1957 by an estimated 59 automobiles and 28 station wagons, a total planned reduction of 87 vehicles.

At the beginning of fiscal year 1958 it is estimated that the total passenger-carrying fleet will be 678 automobiles, 72 station wagons, 4 ambulances, and 3 buses, a total of 757 vehicles. Of that total and by the end of fiscal year 1957, 78 will have become over 6 years of age, and it is estimated that 97 will have accumulated over 60,000 miles, a total of 175 vehicles, or about 23 percent of the fleet, which will meet replacement standards. This percentage is less than that recommended by the General Services Administration for annual replacement.

The bus for which authorization to purchase is requested will be stationed at the Glen Canyon Dam office of the upper Colorado River project. It will be of 25-passenger capacity and will be used to make 3 round trips daily, 7 days per week, to transport Bureau personnel to widely scattered work stations. It will furnish transportation equivalent to 6 passenger cars at much lower cost and will permit much better utilization of the passenger cars elsewhere. It is dangerous and impractical to use a large number of passenger vehicles in construction areas, and the use of a bus will minimize this hazard.

The ambulance will be stationed in the Navajo unit, Colorado River storage project, an isolated construction camp far from medical services and hospitals. It will be used for the protection of Government employees and their families.

Every effort has been made during the past several years to reduce the number of passenger-carrying vehicles and to increase the utilization of each individual vehicle, and this policy shall be continued; however, due to the expanded construction program that will be in full force, no reduction in the number of vehicles may be possible in fiscal year 1958.

Change in language pertaining to purchase of aircraft

It is recommended that the Bureau be authorized to purchase 2 aircraft during fiscal year 1958 of which 1 is for replacement. With the initiation of construction of the Glen Canyon Dam, Colorado River storage project, it became apparent that automobile or commercial transportation would not be adequate to carry on the Bureau's business in an economical and timely manner. Frequent trips must be made from the dam site near the Utah-Arizona border to the regional office at Salt Lake City, Utah, and to the Assistant Commissioner and chief engineer's office at Denver, Colo. The dam site is about 120 miles by highway to the railroad at Anderson, Utah, which is about 265 miles from Salt Lake City. To travel from the dam site to Salt Lake City would require about 3 hours by automobile, and about 7 hours by rail, a 10-hour trip. To travel to Denver would lengthen the trip by another 15 hours, not considering layover at Anderson and Salt Lake City. To travel from the dam site by automobile to Flagstaff, Ariz., about 180 miles, would require about 5 hours. Flagstaff to Denver by rail is about a 24-hour trip. Region 4 now has 2 light planes assigned, but it is not feasible to attempt to fly such planes to Denver due to altitudes to be attained. It is requested that authorization be granted for the purchase of an 8-place, 2-motor airplane to replace 1 light plane. One other will be retained for use of regional and field employees where high-altitude flying is not involved. The two-motor will be based at the Glen Canyon Dam site.

The second two-motor plane requested will be based at Denver, Colo. The primary purpose of this plane will be to facilitate Bureau activities such as the protection and development of water resources in region 7 comprising the States of Wyoming, Colorado, Nebraska, and Kansas. Accessibility in this 4-State area is handicapped by poor public transportation facilities. Investigation and construction activities are carried out in this 4-State area under region 7 responsibility and such a plane would facilitate necessary visits to the sites whereby close contacts must be maintained in the interest of maximum accomplishment in a minimum of time. In the past delays have been experienced and field contacts forgone beeasue of inability to make quick and effective visits to field personnel at the sites.

Small but adequate landing facilities in the areas will permit visits by regional representatives and other Bureau staff personnel on such a plane and allow the necessary contacts to be made in minimum time and at minimum expense. The availability of a plane in Denver will be of further great significance in making such transportation readily available to the prime design and construction office of the Bureau under the cognizance of the Assistant Commissioner and Chief Engineer. This will enable him and members of the headquarters staff to give a more adequate and rapid coverage of areas which are not now readily accessible. To accomplish the above purposes it is requested that authorization be granted to purchase an 8-place, 2-motor airplane at an estimated cost of $100,000. Estimated use—1,200 hours annually.

Deletion of language in the last four paragraphs

The language pertaining to the handling of operation and maintenance funds expended for construction purposes on the Boulder Canyon project should be deleted since the purpose for which it was inserted has been served and the problem is not expected to arise again.

Language authorizing an increase in the power-generating capacity of the Trinity division of the Central Valley project to approximately 400,000 kilowatts should be deleted on the grounds that such language constitutes permament legislation and need not be repeated in the annual appropriation act after fiscal year 1957.

Language pertaining to the deferment of part of the reimbursable costs of the Wahluke siphon, Columbia Basin project, until certain withdrawn lands are no longer needed in connection with the operations of the Atomic Energy Commission, is recommended for deletion on the grounds that such language is permanent legislation and need not be repeated in the annual appropriation act after fiscal year 1957.

The language authorizing the Secretary of Commerce to participate in the construction of the bridge required in the construction of Glen Canyon unit should be deleted since it is permanent legislation and it need not be repeated in the appropriation act after fiscal year 1957. It appeared in the Second Supplemental Appropriation Act for fiscal year 1957.

PURCHASE OF AIRPLANES

Mr. RABAUT. I note that authority to purchase two new airplanes for 1958 is requested. What will these cost be and why are they needed?

Mr. CROSTHWAIT. The first one, sir, is needed in connection with our operations in the Upper Colorado Basin. We are anticipating acquiring a small twin-engine aircraft for $100,000.

Mr. RABAUT. A small one?

Mr. CROSTHWAIT. Yes, sir; any of these twin-engine jobs will run close to that. The larger ones will run as much as $200,000.

Mr. RABAUT. How many does it carry?

Mr. CROSTHWAIT. A pilot and four passengers.

Mr. RABAUT. What is this, a plush-type interior, or what?

Mr. CROSTHWAIT. No, this is standard. I was thinking, for instance, of the Cessna 310 which is a twin-engine job. The primary reason for the two engines is the terrain.

Mr. RABAUT. I understand that but the point is the price. Why do you need two of them? The second one is needed to go and get the first one?

Mr. CROSTHWAIT. The second one is required for operations in our 7th region, which has headquarters in Denver, where we use it for work throughout that region and where transportation to the various units by commercial means is not very satisfactory. We have made a fairly complete study of the area, and have found that we can handle the transportation and the aerial surveys that must be made in that area by this means more economically than we can by any other means.

Mr. RABAUT. You know that airplanes are not like horses, automobiles, or boats. The sky is their sea and distances fade behind their propellers. Why do you need two of them?

Mr. CROSTHWAIT. One of them would be based——

Mr. RABAUT. I do not care where it is based. You are talking about the average, according to the mileage you are going to travel, the average use will be 3 hours a day.

Mr. CROSTHWAIT. The distances between Denver, where one of them would be based, and Glen Canyon is approximately 500 miles over the mountains.

Mr. RABAUT. You said there are four passengers. It says in the justifications that there are eight places in them.

Mr. CROSTHWAIT. Some of these may run that high. My recollection was that this held a pilot and 4; maybe it is a pilot and 7.

Mr. RABAUT. It reads: "To purchase an 8-place, 2-motor airplane at an estimated cost of $100,000. Estimated use of 1,200 hours annually."

Mr. CROSTHWAIT. Pilot and 7 instead of pilot and 4.

Mr. RABAUT. That is 100 hours per month. How many planes do you have now?

Mr. CROSTHWAIT. As of this time, we have 6 aircraft, 1 of which is a helicopter which we use in the patrol of the powerlines in Arizona.

Mr. RABAUT. Have you talked to the Army or the Navy about transfer of some planes?

Mr. CROSTHWAIT. Yes, sir; we have in every case tried to do so. When we get authority, we have tried to get aircraft transferred. You gave us authority last year to replace two aircraft, and we made every effort then to get them through the military, without any success. We are willing to do that, however, at any time.

Mr. ANDERSEN. I would like to say that it is almost impossible today to secure used planes, is it not?

Mr. CROSTHWAIT. That is correct, sir. That is, planes that you can rely on, particularly from the military services.

Mr. ANDERSEN. I understand that there is such a demand for such planes that there are certain people who pick up anything they can find and who make a considerable profit by sending them abroad to other places. I understand your problem. Here is a question I would like to ask: I have flown over that region, and I remember that we used a little Beechcraft at that time—the pilot plus three passengers—and I would like to know what those Beechcraft cost? That certainly did not cost any $100,000.

Mr. CROSTHWAIT. I think that single-engine Beechcraft costs today somewhere around $35,000.

Mr. ANDERSEN. I do remember upon that particular trip that the pilot said he would feel a whole lot better if he had an additional motor.

Mr. CROSTHWAIT. That is the problem. If the motor quits on you over that country, that is the end.

Mr. ANDERSEN. We were up at an elevation of 16,500 over that divide. I personally would have felt much better if I had been in a plane with two motors.

Mr. CROSTHWAIT. That is correct. We think that in that country it is a matter of safety to have the second motor.

Mr. RABAUT. Are there any further questions?

Mr. JENSEN. I would like to say, Mr. Chairman, I can understand why they would want proper airplanes on that great range of mountains out there, because it would not be to the advantage of the Department and to the advantage of safety measures to be in a small plane flying too often over the mountains.

Mr. RABAUT. Do you think you need both of them as large as that?

Mr. CROSTHWAIT. I think we do, Mr. Chairman. I have a statement as to the airplane which it is proposed to headquarter in Denver that I would like to leave with you, if there is no objection.

Mr. RABAUT. Without objection, that will be put in the record.

(The statement follows:)

BUREAU OF RECLAMATION, REGION 7

STATEMENT FOR AIRCRAFT PURCHASE, FISCAL YEAR 1958

The primary purpose of the plane will be to facilitate, in general, the Bureau of Reclamation in the performance of protecting and developing water resources in the 17 Western States and, in particular, the performance of region 7 in conducting similar activities in the States of Wyoming, Colorado, Nebraska, and Kansas.

Investigation activities in region 7 are carried on throughout the four-State area, and in many instances accessibility is limited as a result of poor transportation facilities. Immediate availability of a Bureau-owned plane would facilitate field visits to areas where studies are being conducted in order that close relations and contact may be maintained in the interest of accomplishing adequate studies within minimum time limits and at the least possible cost.

It has been our experience in the past that field contacts from centralized offices have, in many instances, been delayed or forgone entirely, as a result of inability to make quick and effective visits at the site of operation. Existence of small but adequate landing facilities in most areas will permit use of the plane by regional representatives and others of the Bureau staff to make these necessary contacts with a minimum of time and expense.

Similarly, construction activities are spread over the entire four-State area in region 7, and here, again, existing public-transportation facilities in most instances do not afford quick transportation to the construction sites.

We anticipate that field conferences and guidance will be beneficial to the program as a result of being able to make on-the-spot inspections immediately when problems occur, rather than by delayed contacts, which in many instances result in after-the-fact appraisals which are not satisfactory and which ofttimes result in added costs to the Government. Throughout region 7 operations we are endeavoring to make the greatest possible use of field contacts in the interest of avoiding second guessing of on-site decisions. The availability of a plane capable of delivering several people to our respective field offices or sites of operation will permit much greater coordination with the field activity where the actual work is being accomplished.

Availability of a plane in Denver will be of great significance to other Bureau operations, principal of which includes the Assistant Commissioner and Chief Engineer as related to his responsibilites for maintaining close contact with offices and construction activities throughout the Bureau's area of jurisdiction. We have discussed the desirability of a plane in Denver with Mr. McClellan and his representatives and have received hearty approval. It is our intention that this plane will be available for scheduled use by his staff on a reimbursable basis.

Frequently in the past, representatives of Congress or of other offices, such as the Secretary of the Interior, and Bureau of the Budget personnel have visited Denver and, because of their keen interest in the reclamation program, have desired to make inspections of some of the works. Because of tight time schedules, we have found it impossible to properly inform and show these individuals the nature and scope of work which reclamation has accomplished. We believe that the plane can be used to greater advantage in the process of informing those individuals who are responsible for authorizations and actions of Congress, and who must necessarily know the extent of our programs and the progress of work.

To accomplish the above purposes in the best manner possible, we propose the purchase of an Areo Commander seven-place plane, or equal, at an estimated cost, including a slight contingency factor, of approximately $100,000. It is estimated the plane will be used 1,200 hours annually.

Aircraft manufacturers show an hourly operating cost of $40.51 an hour and 20.3 cents per airplane mile for annual usage of 1,200 hours. Following is a tabulation showing representative trips proposed for the seven-place plane and

cost comparisons of the Bureau (Denver based) plane against common-carrier costs to points serviced by commercial train, aircraft, or bus:

Travel point	Cost of common carrier (5 persons) for round trip	Cost by bureau airplane (5 passengers) for round trip
Ainsworth, Nebr	$338.00	$131.00
Amarillo, Tex	260.00	152.00
Billings, Mont	344.00	186.00
Boise, Idaho	438.00	253.00
Boulder City, Nev	427.00	243.00
Casper, Wyo	209.00	91.00
Vernal, Utah (Flaming Gorge)	300.00	105.00
Kanab, Utah (Glen Canyon)	323.00	162.00
Grand Island, Nebr	264.00	146.00
McCook, Nebr	127.00	93.00
Omaha, Nebr	249.00	198.00
Pueblo, Colo	116.00	44.00
Redding, Calif	621.00	385.00
Sacramento, Calif	650.00	357.00
Salt Lake City, Utah	266.00	146.00
Sargent, Nebr	308.00	125.00
Washington, D. C	937.00	629.00

It is proposed to base the airplane at the Denver Federal center, where there is an existing flight strip and space that can be converted into a hangar. Basing the airplane at the DFC will eliminate many lost hours of commuting time between the Center and the Denver Union Depot and Stapleton Airfield. A yearly savings of $5,000 is estimated in taxicab fares between Denver and the DFC and time lost in transit.

Numerous points within region 7 and the 17 Western States are not serviced by common carrier, which leaves ground-type vehicles the only mode of common transportation. A large potential savings will result from the direct point-to-point transportation capability of the Bureau plane. Flight strips are available in many small western towns where common carrier is not available. An analysis of the costs recorded in operating our McCook, Nebraska-based single-engine plane shows that air travel requires but 30 percent of the time considered in automobile travel with resulting savings in salary and per diem.

In addition to routine air trips, our McCook, Nebr., aircraft has been used in certain urgent matters that require the immediate personal attention of Bureau officials in the best interest of the Government, in which cost is not necessarily the controlling factor. Also, certain types of observations, inspections, and examination of critical situations, such as flood conditions, can best be accomplished by air. The proposed Denver-based aircraft could also be used for obtaining aerial photos when not otherwise in use. The usage experience built up by our McCook aircraft gives ample proof of economical advantage to aircraft transportation.

NUMBER OF EMPLOYEES

Mr. JENSEN. I would like to ask another question or two. I do not know whether we have placed in the record yet the number of people employed by the entire Bureau of Reclamation. How many people did the 1957 act of Congress appropriate money for? How many people are you requesting funds to employ in fiscal year 1958?

Mr. CROSTHWAIT. There was money appropriated for 12,088 positions in 1957. The estimates for 1958 are 12,194 positions.

Mr. JENSEN. What is your justification for the increase of 106?

Mr. CROSTHWAIT. That is primarily because of the increased workload we have in the upper Colorado basin.

Mr. JENSEN. On the new project?

Mr. CROSTHWAIT. Yes, sir; those figures I just gave you represent 1957, 11,143 man-years; in 1958, 11,378 man-years. As of March, we actually had on our rolls 10,222 of which 200——

Mr. JENSEN. That is computing it in man-years?

Mr. CROSTHWAIT. That is actual employees.

We had 10,222 employees of which 221 were part-time people.

Mr. JENSEN. So you have a number of vacancies right now that are unfilled?

Mr. CROSTHWAIT. That is right. We are having difficulty, as you well recognize, in filling up some of our engineering requirements today.

Mr. JENSEN. But you are getting along with the number of personnel that you have; are you not?

Mr. CROSTHWAIT. Yes, but the workload is building up and it will build up during the summer when the workload on these construction jobs is in full swing.

Mr. JENSEN. How many engineers do you have in the engineering pool in Denver full time?

Mr. CROSTHWAIT. We have roughly a thousand people in Denver. I would guess that half of those, between five and six hundred of those, are engineers.

Mr. JENSEN. Do you mean to tell us that you have the engineers in Denver reduced down to the neighborhood of 500 in your engineering pool?

Mr. CROSTHWAIT. I think it has been pretty nearly that level for some time.

Mr. JENSEN. There was a time, you know, when you had 1,600 or 1,700.

Mr. CROSTHWAIT. That is right. We cut that quite materially 3 or 4 years ago.

Mr. JENSEN. Because we cut out the money?

Mr. CROSTHWAIT. That is right.

Mr. JENSEN. We did not hurt the service too much, I do not think. Now, I see a friend of mine across the table here shaking his head at that statement but nevertheless you have done pretty well with the personnel you have. That is a compliment. I want that taken as a compliment.

Mr. CROSTHWAIT. We reduced our overall personnel from 17,000 down to nearly 9,000 in that period.

Mr. JENSEN. You did it because the Congress felt that that was necessary and justified.

Mr. CROSTHWAIT. That was during a period when our construction program was down.

Mr. JENSEN. That had quite a little to do with it, I realize that.

Mr. NIELSEN. We lost some excellent men a few years ago and we are having difficulty with that cycle now. When we go to recruiting engineers they remind us, "Not long ago you cut us off. What are you going to do now?"

Mr. JENSEN. I think you got along very well with the personnel we allowed you. It proved one thing, that efficiency does not always depend on having a lot more people than you really need.

Mr. NIELSEN. My real point there is that in the reduction-in-force process we could not select. Through civil service you have to recognize seniority and that sort of thing.

Mr. JENSEN. That is all.

SOIL AND MOISTURE PROGRAM

Mr. ANDERSEN. I have a question I would like to ask relative to the soil and moisture conservation program, Mr. Chairman.

In the first place, would the gentleman inform me as to whether or not this is practically the same line of work as done by the Soil Conservation Service in the Department of Agriculture?

Mr. DOMINY. It is of the same general character in that its aim is to conserve land and water resources in connection with our projects.

Mr. ANDERSEN. I would gather that from your testimony.

Mr. DOMINY. The Soil Conservation Service works on private lands and our work is in connection with the Federal lands incorporated into these Federal reclamation projects.

Mr. ANDERSEN. How closely do you cooperate with the Soil Conservation Service in this?

Mr. DOMINY. We cooperate very closely with the Soil Conservation Service and we keep closely in touch with their technical, experimental work, and we use the very latest methods of work as developed by the Soil Conservation Service. Much of this work is done under cooperative agreements with the State colleges and the Soil Conservation districts, if there is one in the area, and with the irrigation district itself. Frequently, the problem concerns private lands, as well as public lands in a given area.

Mr. ANDERSEN. As you well know, we spend quite a sum of money in the Department of Agriculture for Soil Conservation Service operations. Can you assure this committee that there are very few duplications in your work as connected with theirs?

Mr. DOMINY. I would say, sir, that there are no duplications.

Mr. ANDERSEN. There are no duplications?

Mr. DOMINY. No, sir; in that our work is carried out in very close coordination with any soil conservation district plan in any area.

Mr. ANDERSEN. That is all, Mr. Chairman.

EMERGENCY FUND AND MISCELLANEOUS PERMANENT APPROPRIATIONS

FORT PECK

Mr. RABAUT. At this point in the record, we will insert pages BR–62 and BR–63 covering the Fort Peck emergency continuing fund and miscellaneous permanent appropriations.

(The pages follow:)

BUREAU OF RECLAMATION

Continuing fund for emergency expenses, Fort Peck project, Montana

Estimated total obligations, 1957	$937,748
Estimated total obligations, 1958	1,404,200
Increase	466,452

JUSTIFICATION

This fund defrays the operating expenses of the generation and transmission of power from Fort Peck project, Corps of Engineers, and emergency expenses to insure continuous operation (16 U. S. C. 833). New income is estimated at $1.1 million for 1958, an increase over prior years, resulting from increased

power revenues, and decreased operating expenses. Receipts in excess of current operating needs are retained so as to maintain a continuing emergency fund of $0.5 million. The balance is paid into the Treasury as miscellaneous receipts toward amortizing, with interest, the costs of the dam, reservoir, and powerplant allocated to power and of transmission. Such payments totaled $900,000 in 1956 and are estimated at $1.7 million in 1957 and $1.4 million in 1958.

Miscellaneous permanent appropriations

Appropriated (estimate), 1957	$4,037,000
Estimate, 1958	4,037,000
Increase or decrease	----------

JUSTIFICATION

1. *Colorado River Dam fund, Boulder Canyon project, payment of interest on advances from the Treasury, $3,300,000*

Interest is paid to the Treasury on moneys advanced for construction.

2. *Colorado River Dam fund, Boulder Canyon project, payments to States of Arizona and Nevada, $600,000*

Annual payments of $0.3 million each in lieu of taxes are made to Arizona and Nevada, from revenues from operation of the Boulder Canyon project.

3. *Operation, maintenance, and replacement of project works, North Platte project, $4,000*

This fund is derived from operation of project powerplants, leasing of project grazing and farmlands, sale or use of townsites, and sale or rental of surplus water. No obligations are estimated for 1958.

4. *Payments to the Farmers' Irrigation District (North Platte project, Nebraska-Wyoming), $8,000*

Payments are made to the Farmers' Irrigation District on behalf of the Northport Irrigation District for water carriage.

5. *Refunds and returns, $125,000*

Overcollections are refunded and amounts of unapplied deposits are returned.

Mr. RABAUT. I want to thank you gentlemen for your appearance here today and for your testimony.

Mr. BENNETT. Thank you very much, Mr. Chairman.

THURSDAY, May 2, 1957.

CEMETERIAL EXPENSES, DEPARTMENT OF THE ARMY

WITNESSES

COL. C. O. GILLY, COMPTROLLER, OQMG
COL. WALTER P. SCOGGINS, CHIEF, MEMORIAL DIVISION
CHARLES J. DORMAN, CHIEF, CEMETERY BRANCH, MEMORIAL DIVISION, OQMG

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Procurement of headstones	$1,835,746	$2,565,000	$2,444,000
2. Construction and acquisition of land	489,894	570,000	400,000
3. Repair of Arlington Memorial Amphitheater	608,006	30,000	----------
4. Maintenance and operation	2,529,887	3,090,000	3,370,000
5. Administration	506,300	510,000	561,000
Total obligations	5,969,833	6,765,000	6,775,000
Financing: Unobligated balance no longer available	30,167	----------	----------
Appropriation	6,000,000	6,765,000	6,775,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	598	723	749
	Full-time equivalent of all other positions	25	25	25
	Average number of all employees	598	709	732
	Number of employees at end of year	628	759	774
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$4,548	$4,573	$4,596
	Average grade	GS–5.5	GS–5.6	GS–5.6
	Ungraded positions: Average salary	$3,668	$3,663	$3,677
01	Personal services:			
	Permanent positions	$2,285,810	$2,718,058	$2,846,137
	Positions other than permanent	70,000	70,000	70,000
	Regular pay above 52-week base	9,252	----	10,950
	Payment above basic rates	35,086	33,342	33,113
	Total personal services	2,400,148	2,821,400	2,960,200
02	Travel	26,544	26,120	31,130
03	Transportation of things	284,956	357,443	342,727
04	Communication services	38,719	40,220	40,610
05	Rents and utility services	60,325	65,215	70,435
07	Other contractual services	886,042	401,425	389,700
08	Supplies and materials	151,369	181,255	190,000
09	Equipment	1,661,117	2,334,322	2,208,598
10	Lands and structures	487,224	567,000	397,500
11	Grants, subsidies, and contributions:			
	Contribution to retirement fund	----	----	174,500
13	Refunds, awards, and indemnities	425	----	----
15	Taxes and assessments	5,074	5,000	4,000
	Subtotal	6,001,943	6,799,400	6,809,400
	Deduct charges for quarters	32,110	34,400	34,400
	Total obligations	5,969,833	6,765,000	6,775,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$6,000,000	$6,765,000	$6,775,000
Obligated balance brought forward	812,716	1,302,481	1,100,000
Total budget authorizations available	6,812,716	8,067,481	7,875,000
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	4,676,231	5,832,864	6,000,000
Out of prior authorizations	789,254	1,134,617	900,000
Total expenditures	5,465,485	6,967,481	6,900,000
Balance no longer available:			
Unobligated (expiring for obligation)	30,167	----	----
Other	14,583	----	----
Obligated balance carried forward	1,302,481	1,100,000	975,000
Total expenditures and balances	6,812,716	8,067,481	7,875,000

Mr. RABAUT. We will now take up for consideration of the committee "Cemeterial expenses," where there is a total of $6,775,000 requested, which is only $10,000 more than the current year's appropriation.

Colonel Gilly, do you have a general statement?

Colonel GILLY. Yes, sir; I have, Mr. Chairman.

Mr. RABAUT. Well, you can put it in the record at this point, and highlight it, if you want to say something about this request to the committee.

Colonel GILLY. Very well, sir.

The overall estimate is as the chairman has stated, sir.

Would you care for me to cover each project, sir, in a general highlight?

Mr. RABAUT. I think we will develop it as we ask some questions, but if you want to say something about it generally, it will be all right.

Colonel GILLY. No, sir; I will not make a statement at all.

Mr. RABAUT. Without objection, your statement will be placed into the record at this point.

(The statement follows:)

STATEMENT BEFORE THE PUBLIC WORKS SUBCOMMITTEE, COMMITTEE ON APPROPRIATIONS, HOUSE OF REPRESENTATIVES, BY COL. C. O. GILLY

Mr. Chairman, gentlemen, the Congress has by statute assigned to the Army the responsibility for the supply of headstones and markers for various categories of authorized personnel who are interred in private, national, and post cemeteries. The Army has similarly been assigned the responsibility for the development, maintenance, and operation of the national cemetery system, which at the present time consists of 85 national cemeteries, 22 soldiers' lots, 5 Confederate cemeteries, 2 Confederate plots, 2 Confederate monument sites, 2 national monument sites, 1 memorial park, and the Government-owned lots in the Washington Parish Burial Grounds, generally known as the Congressional Cemetery. The appropriation "Cemeterial expenses, Department of the Army," provides funds to carry out these responsibilities.

The estimate of $6,775,000 for the fiscal year 1958 represents an increase of $10,000 over funds available for the current year. However, except for certain expenses not previously charged to this appropriation, there would be a decrease in the funds requested. These additional costs cover contributions to the civil-service retirement fund, as required by law, and reimbursement to the "Military personnel, Army," appropriation for services performed by Army personnel.

Funds required for the procurement of headstones and markers in the fiscal year 1958 amount to $2,444,000 as compared to $2,565,000 in the fiscal year 1957. This is a decrease of $121,000 and is attributable, in part, to the fact that the amount for the fiscal year 1957 includes an abnormal requirement to eliminate a backlog of 9,573 applications which were carried over from fiscal year 1956 due to insufficient funds. While the normal receipt of applications continues to increase each year, the amount requested for fiscal year 1958 will keep the program on a current basis and permit the Department of the Army to fulfill its obligation.

The amount included for construction is $400,000 which is a decrease of $170,000 under the fiscal year 1957. This amount will provide funds for the preparation of additional gravesites needed for burials at the following cemeteries: Fort Leavenworth, Kans.; Fort Logan, Colo.; and Long Island, N. Y. It will also provide facilities and utilities necessary for improvement of operation and protection of property at certain other cemeteries. In addition, provision is included for engineering investigations of site conditions and the preparation of preliminary plans and control estimates for necessary projects to be considered in future budgets; and for the preparation of working drawings and specifications for the most urgent projects in the long-range cemetery-planning program.

The amount of $817,000 for maintenance and operation represents an increase of $17,000 over the amount available in the fiscal year 1957. These funds provide for necessary travel, utility, and communication services, transportation and drayage, supplies and equipment, and, in addition, contractual services at locations where cemetery labor is not provided.

The request for $2,553,000 for "Personal services, field," includes an increase of $263,000 over the amount available for this purpose in the fiscal year 1957. Included in the project, for the first time, are funds for reimbursement for or replacement of military personnel now serving as chiefs of the Cemetery Divisions in our supervising depots, and for payments to the civil service retirement fund. It is estimated that the amount requested will provide 622 man-years of employment, an increase of 25 man-years over the estimated number for the fiscal year 1957. This increase is based on normal requirements to make inter-

ments, perform minimum essential administrative services, and maintain the cemeteries at a reasonably acceptable standard.

The amount of $561,000 requested for salaries at the seat of government includes an increase of $51,000 over the comparable amount for the fiscal year 1957. These funds are required to maintain a limited staff in the Office of the Quartermaster General to exercise technical and staff supervision over and render assistance to supervising installations, and to formulate policies and procedures in connection with all activities involved in the establishment, development, operation, maintenance, and administration of the national cemetery system; to determine eligibility of individuals for interment in national cemeteries; to maintain approximately 862,000 interment records, to conduct correspondence pertaining thereto, and to procure and distribute all headstones and markers for the graves of members and former members of the Armed Forces and other eligible personnel. The increase requested in this project will provide reimbursement for, or replacement of, military personnel serving in the Cemetery and Headstone Branches of the Office of the Quartermaster General and payments to the civil service retirement fund.

I have with me Colonel Scoggins, Chief of the Memorial Division, Office of the Quartermaster General, and others of my staff who will endeavor to provide any additional information the committee may desire with respect to this estimate.

Mr. RABAUT. At this point in the record we will insert pages 2, 3, 8, 10, 12 to 16, 22, 24, and 27 of the justifications.

(The pages follow:)

JUSTIFICATION OF ESTIMATES FOR CIVIL FUNCTIONS ACTIVITIES, DEPARTMENT OF THE ARMY, FISCAL YEAR 1958

CEMETERIAL EXPENSES, DEPARTMENT OF THE ARMY—Continued

Standard classification schedule for direct obligations

By object expenditures	Estimate, 1957	Estimate, 1958	Difference, increase (+) or decrease (−), 1958 compared with 1957
01 Personal services, civilian	$2,787,000	$2,925,800	+$138,800
02 Travel	26,120	31,130	+5,010
03 Transportation of things	357,443	342,727	−14,716
04 Communication services	40,220	40,610	+390
05 Rents and utility services	65,215	70,435	+5,220
07 Other contractual services	401,425	389,700	−11,725
08 Supplies and materials	181,255	190,000	+8,745
09 Equipment	2,334,322	2,208,598	−125,724
10 Lands and structures	567,000	397,500	−169,500
11 Refunds, awards, and indemnities		174,500	+174,500
15 Taxes and assessments	5,000	4,000	−1,000
Total direct obligations	6,765,000	6,775,000	+10,000
Adjustments	0	0	0
Total appropriation or estimate	6,765,000	6,775,000	+10,000

Summary of projects (direct obligations)

Project Number (1)	Purpose of project (2)	Actual obligations, fiscal year 1956 (3)	Estimated obligations, fiscal year 1957 (4)	Estimate, fiscal year 1958 (5)
111	Procurement of headstones	$1,835,746	$2,565,000	$2,444,000
211	Construction and acquisition of land	489,894	570,000	400,000
212	Repair of Arlington Memorial Amphitheater	608,006	30,000	
411	Maintenance and operation	655,252	800,000	817,000
412	Personal services, field	1,874,635	2,290,000	2,553,000
711	Salaries at seat of Government	506,300	510,000	561,000
	Total obligations	5,969,833	6,765,000	6,775,000
	Unobligated balance no longer available	30,167		
	Total appropriation or estimate	6,000,000	6,765,000	6,775,000

PROJECT 111.—*Procurement of headstones*

	Fiscal year 1956	Fiscal year 1957	Fiscal year 1958
Applications brought forward from previous year:			
(*a*) Due to normal processing time	7,772	8,334	8,447
(*b*) Due to insufficient funds	0	9,573	0
Total	7,772	17,907	8,447
Normal receipt of applications	91,075	98,361	104,260
Applications other than normal receipts:			
(*a*) For Korean requirements	1,056	1,000	0
(*b*) For group burials	3	10	5
(*c*) For replacement	823	2,000	1,995
Total	1,882	3,010	2,000
Total applications for headstones	100,729	119,278	114,707
Deductions to determine purchase requirements:			
(*a*) Carried forward due to normal processing time	8,334	8,447	9,089
(*b*) Carried forward due to insufficient funds	9,573	0	0
Total	17,907	8,447	9,089
Total, headstones and markers to be purchased	82,822	110,831	105,618

PROJECT 211.—*Construction and acquisition of land*

(1)	Actual obligations, fiscal year 1956 (2)	Estimated obligations, fiscal year 1957 (3)	Estimate, fiscal year 1958 (4)
SUMMARY			
Total	($489,894)	($570,000)	($400,000)
Continental United States	489,894	570,000	400,000

SUPPORTING DATA

Funds are requested under this item only to the extent that it is considered necessary—

(*a*) To provide grave space and facilities for the interment of the remains of the classes of persons enumerated in title 24, United States Code, section 281:

(*b*) To accomplish construction and alterations at existing facilities to protect the Government's investment therein.

10 Lands and structures

Chattanooga National Cemetery, Tenn $68,900

Construction of chain link fencing on concrete curb wall to provide complete enclosure of the cemetery, pursuant to title 24, United States Code, section 279.

Fayetteville National Cemetery, Ark..... $13,800

Construction of addition and alterations to existing service building to house and protect cemetery interment and operating equipment, to provide a fireproof paint and oil room, public toilet facilities, and a new sewage-disposal field to serve public toilets.

Fort Leavenworth National Cemetery, Kans..... $2,800

Provision of landscape planting for the 5.15 acres developed for burials in fiscal year 1957.

Fort Logan National Cemetery, Colo..... $204,000

Development of 10 acres for burial purposes and construction of minimum appurtenant facilities necessary to the continued operation of the cemetery.

Long Island National Cemetery, N. Y..... $29,000

Completion of development of 110 acres for burial purposes, providing basic tree planting required for ultimate landscape treatment.

Mound City National Cemetery, Ill..... $49,000

Construction of addition and alterations to existing service building to house and protect cemetery interment and operating equipment and installation of a new water supply system, including well and pump room, to replace present unsatisfactory system.

Advance planning, engineering, and design..... $30,000

Funds are required under this item for engineering investigations of site conditions and the preparation of preliminary plans and control estimates for projects to be included in the fiscal year 1960 budget and to prepare working (contract) drawings and specifications for the most urgent projects scheduled for accomplishment in the long-range national cemetery planning program. The engineering and design funds requested will allow these projects to be ready for costruction within 60 days after project funds are provided, and assure their accomplishment including supervision and acceptance within the fiscal year in which the funds are made available.

Preliminary planning	11,700
Advance engineering and design	18,300

Cemeterial Expenses, Department of the Army

Project 411 Maintenance and operation

(1)	Actual obligations, fiscal year 1956 (2)	Estimated obligations, fiscal year 1957 (3)	Estimate, fiscal year 1958 (4)
SUMMARY			
Total	($655,252)	($800,000)	($817,000)
Continental United States	627,056	744,500	776,300
Overseas	28,196	55,500	40,700

SUPPORTING DATA

Pursuant to applicable statutes[1] funds are required under this project for the expenses of operating and maintaining the national cemetery system under the jurisdiction of the Department of the Army consisting of 85 national cemeteries, 22 soldiers' lots, 5 confederate cemeteries, 2 Confederate plots, 2 Confederate monument sites, 2 national monument sites, 1 memorial park, and Government-owned burial lots in the Washington Parish Burial Ground.

[1] 14 Stat. 353; 5 U. S. C. 150q; 24 U. S. C. 271 through 273; 24 U. S. C. 278 through 279a; 24 U. S. C. 281 through 282; 24 U. S. C. 286 through 295; 32 U. S. C. 81 through 81c; 33 U. S. C. 855; 42 U. S. C. 217.

The estimate includes only those funds required for necessary travel, transportation, communication services, utility services, contractual maintenance of buildings, grounds and equipment, contractual interments, and the purchase of supplies and cemetery equipment.

Project 412 Personal services, field

Summary	Actual obligations, fiscal year 1956	Estimated obligations, fiscal year 1957	Estimate, fiscal year 1958
(1)	(2)	(3)	(4)
Total	($1,874,635)	($2,290,000)	($2,553,000)
Continental United States	1,774,713	2,172,030	2,417,200
Overseas	99,922	117,970	135,800

SUPPORTING DATA

It is estimated that the funds requested for employment in the national cemeteries in the fiscal year 1958 will provide a total of 622 man-years of which 158 man-years will be required for the accomplishment of interments; 138 man-years for superintendents, clerical, and administrative personnel; and 326 man-years provide for maintenance.

The funds requested are required to accomplish an estimated 26,309 interments (an increase of 3,025 over fiscal year 1957) and to maintain the buildings, grounds, and improvements located in 1,908 developed acres in the national cemetery system.

Funds are requested under this item to provide salaries of personnel engaged in the three essential areas of activities in national cemeteries; (1) National cemetery superintendents and administrative employees who arrange and conduct funerals, provide services to the public, and the administrative activities in general; (2) personnel who open and close graves and perform other essential activities in connection with interments; and (3) personnel engaged on non-contractual maintenance activities of the cemeteries, e. g., cultivating and mowing grass, setting headstones, pruning trees, policing, and related essential activities. Items (1) and (2) are ever-increasing annual obligations which must be met. Any reductions, as well as wage-board increases which cannot be foreseen, have and will result in curtailment of activity under item (3). The increase in funds requested in fiscal year 1958 is based on normal requirements to make interments, perform minimum essential administrative services, and maintain the cemeteries at a reasonably acceptable standard.

In the interest of relieving continental Army commanders of administrative responsibilities, effective July 1, 1955, immediate supervision of the national cemetery system installations within the CONUS was transferred from the Army commanders to the Quartermaster General; in turn cemetery divisions were established at four depots in order to continue the necessary regional supervision. For fiscal year 1957, funds for establishment of positions of division chiefs were not available and it has been necessary to assign military personnel to these positions. In order to release military personnel for other assignments, 4 civilian positions (1 GS–13 and 3 GS–12) are included in the estimate for personal services for fiscal year 1958.

The 2 GS–3 clerks are required (1 at Long Island National Cemetery and 1 at Sharpe Depot) due to increase in administrative workload.

PROJECT 711. SALARIES AT SEAT OF GOVERNMENT

The increase in amount of funds requested for this project will provide for the contribution to the civil-service retirement fund and reimbursement for or replacement of military personnel now serving as Chiefs of the Cemetery and Headstone Branches. One GS–13 cemetery operations officer will be required as Assistant Chief of the Cemetery Branch if the military chief of the branch is replaced by the GS–14 cemetery operations officer. One GS–13 procurement and contracting officer will be required to replace the Chief of the Headstone Branch.

Procurement of Headstones

Mr. Rabaut. I note the budget proposes to decrease $121,000 in funds for procurement of headstones. Does this mean you are catching up on the backlog this year?

Colonel Gilly. Yes, sir. We will cover the complete backlog we had last year, and keep our program in a current condition.

Mr. Rabaut. Well, that is fine. I remember the talk we had about that last year.

CONSTRUCTION AND ACQUISITION OF LAND

FORT LOGAN NATIONAL CEMETERY

Mr. Rabaut. The major item under "Construction and acquisition of land" is $204,000 for the Fort Logan National Cemetery in Colorado.

What development is planned with that request?

Colonel Gilly. Sir, I will let Mr. Dorman cover that project.

Mr. Rabaut. All right, Mr. Dorman.

Mr. Dorman. Sir, we propose to develop 10 additional acres at Fort Logan. At present the cemetery is without any facilities for the public except temporary office space.

In addition to the development of the 10 acres, including grading, grubbing, clearing, seeding, and fertilizing, we will erect a lodge for the superintendent with office space included therein for accommodation of the public.

Mr. Rabaut. What is the estimated cost of the lodge?

Mr. Dorman. The lodge portion of the combination building, lodge and office, will be $17,000, sir.

Mr. Rabaut. Is that the only construction program for this year besides the land?

Mr. Dorman. We have the enclosure fencing.

Mr. Rabaut. How much will that amount to?

Mr. Dorman. The picket fence along the curb wall is $13,325. There is an entrance gateway of $12,000. Those are on the main artery.

Mr. Rabaut. They are included in this $204,000 request?

Mr. Dorman. They are included therein.

Mr. Rabaut. Well, you have $25,000 and $17,000 or, roughly, $42,000. The improvements on the land would be about $16,000?

Mr. Dorman. If I may, sir, I could——

Mr. Rabaut. How much will it cost you to handle an acre of land there?

Mr. Dorman. If I may give you a breakdown, Mr. Chairman, I believe I can cover it for you.

Mr. Rabaut. All right.

Mr. Dorman. The construction of the lodge and office building combination is $21,195, of which the lodge portion will be $17,000; an addition to the present service building will be $24,900.

The utilities for these buildings are $13,900.

Mr. Rabaut. What do you mean by "utilities"?

Mr. Dorman. That is the service lines, gas and electricity and so forth, for the buildings and the service lines in the cemetery itself. The project also includes site work, consisting of clearing, grubbing, grading, and so forth, in the amount of $11,850. That is for prepara-

tion of the land so we can put in grass and fertilize it. Bituminous roads come to $14,400, and a temporary gravel road for a connecting link in the amount of $340.

Concrete curbs and gutters along the road, $7,500; and the picket fence on the curb, as I mentioned before, $13,325.

Then there is the main entrance gateway in the amount of $12,000; a chain link fence which is around the part that is not adjacent to the road, $3,070; a flagpole in the amount of $3,000; a lawn sprinkler system in the amount of $31,545; drainage for the roads in the area, $11,495; top soiling and seeding, $26,565; and the supervision, inspection, and administrative costs in the construction phase of this project, $8,915.

Mr. RABAUT. If this is reduced to an acreage cost just for the purpose of computation, you have a greater acreage cost here than you would have if you extended the cemetery to the use of more land.

Mr. DORMAN. Yes, sir.

Mr. RABAUT. That is because you have housing and an office?

Mr. DORMAN. Yes, sir. This corresponds to the increased per acre cost required when we have an initial development of a new cemetery.

Mr. RABAUT. How large is the cemetery?

Mr. DORMAN. The cemetery is 136.8 acres, total, of which there are 4.8 acres developed at the present time.

Mr. RABAUT. How is this running in cost to comparable cemeteries?

Mr. DORMAN. This is comparable to other cemeteries in cost.

MAINTENANCE AND OPERATION

Mr. RABAUT. $817,000 is requested for maintenance and operation, an increase of $17,000 over this year.

How adequate is the present level of maintenance of the national cemetery system?

Colonel GILLY. Sir, we consider it just about the minimum in adequacy.

MAINTENANCE WORK PERFORMED UNDER CONTRACT

Mr. RABAUT. I note $380,000 is scheduled for maintenance work under contract, such as maintenance of equipment and buildings. Why cannot this type of work be performed by the Department of the Army?

Mr. DORMAN. Sir, the personnnel which we have in the cemeteries are not capable of performing the type of services required under this item.

Mr. RABAUT. Well, I note you have an item entitled "Maintenance of Equipment." What is that?

Do you not have people in the Army to do that?

Mr. DORMAN. We have that work out under contract. You see, our cemeteries are spread all over the United States, and most of them are not near any military installation. Therefore, local service is something which we must have as soon as there is a breakdown in order to continue the daily operations.

Mr. RABAUT. What is included under "Maintenance of equipment"?

Mr. DORMAN. The maintenance of equipment item is divided into five classifications: One is for normal maintenance and repairs to 11 sedans, 3 hearses, and 126 trucks, at $17,010; for repairing or re-

chroming lowering devices, repairing mechanical grave excavators, and so forth, $21,920; for overhaul and adjustment to power-operated maintenance equipment such as tractors, mowers, generators, and other maintenance-type items, $24,095; for overhaul of office machines, cleaning and pressing of the large draperies in the offices and refurbishing of the furniture, $3,570; and for repairs to miscellaneous machinery and tools, park benches, and so forth, $780.

Mr. RABAUT. How many installations are included in this maintenance program?

Mr. DORMAN. 120 installations.

INCREASE FOR FIELD PERSONAL SERVICES

Mr. RABAUT. Explain the need for the increase of $122,000 for employees in the national cemeteries in addition to the retirement cost.

Colonel GILLY. Sir, the new items under this project are $31,800 for replacement of military personnel, or reimbursement to the MPA appropriation out of this appropriation. The other item of $140,800 is the contribution to the civil service retirement fund. Those are new items.

There is actually only $90,400 of actual operating increase in this particular project, for a total of $263,000. This increase is expected to provide 21 man-years of personnel required for the increased interment and maintenance workload.

LANGUAGE CHANGES

INCREASE IN LIMITATION ON SUPERINTENDENT'S LODGES

Mr. RABAUT. Under language changes on page 1, I note that it is proposed to raise the limitation for the cost of superintendents' lodges, or family quarters, from $14,000 to $17,000.

Please explain the need for this increase.

Colonel GILLY. That is just a more realistic cost appraisal, sir.

Mr. DORMAN. We have been unable to obtain any contracts for the erection of lodges in national cemeteries at $14,000. When we erect a lodge, it is only one building at a time in any year at a specific cemetery.

If we had need for a number of lodges and other construction at the same time at the cemetery, the work could possibly be done at a cheaper unit cost.

Mr. RABAUT. What type building do you get now for $14,000, and what type do you propose to get for $17,000? Tell us a little bit about the building. What kind of construction will it be?

Mr. DORMAN. Sir, we cannot construct our lodge requirements for $14,000. For $17,000 the building will be of masonry construction. The interior, of course, will be dry wall. We cannot afford wet plaster in a lodge building for that price. The roofing will be a suitable 20-year guaranteed roof. We will construct a three-bedroom lodge.

Mr. RABAUT. Will it be a one-story building?

Mr. DORMAN. It will be a one-story building; yes sir; and all the utilities services will be on the ground floor.

Mr. RABAUT. Including furnaces and everything?

Mr. DORMAN. Yes, sir.

REIMBURSEMENT TO MILITARY APPROPRIATIONS

Mr. RABAUT. Please explain the need for the new language which would authorize reimbursement to the military appropriation for the pay of the military performing services for this appropriation.

Colonel SCOGGINS. Sir, at the present time inasmuch as this is a civil functions appropriation, we have had no language in the bills before which provided that this appropriation may pay for the military personnel who were working for the cemetery system and this change in language, or addition of this language, will provide for that, sir.

Mr. RABAUT. Well, have you been reimbursing the military up to now?

Colonel SCOGGINS. No, sir; we have not, sir.

Colonel GILLY. There are six spaces involved in this for military personnel.

Mr. RABAUT. And they are from the military, and they have been engaged in this work?

Colonel GILLY. Yes, sir.

Mr. RABAUT. And the military has been paying their costs up to now?

Colonel GILLY. Yes, sir.

Mr. RABAUT. Are they asking to be reimbursed?

Colonel SCOGGINS. Yes, sir. Mr. Chairman, the purpose of this is for this appropriation to stand on its own feet and pay for everything it does inasmuch as it is a civil function.

Mr. RABAUT. Do you intend to enlarge upon the six people who are from the military as soon as this language is placed in the bill?

Colonel SCOGGINS. No, sir.

Mr. RABAUT. What about that?

Mr. DORMAN. The funds, sir, are to provide for the reimbursement for those presently in supervisory positions in the cemetery system. However, the intention has been to replace those with civilians when qualified civilians are available, and when the military become more necessary for other functions.

Mr. RABAUT. What is going to decide that they will become necessary for other functions? Would that be the situation in the world, or just the department's idea?

Colonel GILLY. I might explain what these positions are, sir.

Mr. RABAUT. All right.

Colonel GILLY. They are the Branch Chiefs of the Cemetery and the Headstone Branches in the Office of the Quartermaster General, and there are 4 Chiefs of Divisions in the field located at 4 of our depots—Memphis, Sharpe, Chicago, and Philadelphia.

ENTOMBMENT OF UNKNOWN SOLDIERS OF WORLD WAR II AND KOREA

Mr. RABAUT. When we discussed the supplemental request recently for entombment of the unknown soldiers of the United States who died in World War II and Korea, we deferred until now consideration of the $110,000 which will not be needed until 1958: $70,000 of this amount is for travel of military personnel to attend the ceremonies.

Why cannot this cost be absorbed by the services within their regular travel funds?

Colonel GILLY. Mr. Chairman, we stated at that time that this was travel of a nature that was not included in the travel estimates in the MPA budget.

This is a separate one-time ceremony, including all the cost for this ceremony in the supplemental request.

Mr. RABAUT. I think they have enough money for that when you think of the size of that budget, and our information leads us to believe they have enough money. You might give us a breakdown and put it in the record, as to where these service people are coming from. Please give us a rough estimate of the situation, the number involved, and so on.

Colonel GILLY. Very well, sir.

(The information follows:)

Entombment of unknown members of the United States Armed Forces of World War II and the Korean conflict

	Number	Cost
Travel:		
United States Military Academy	500	$20,443
Band, 100; cadets, 400.		
United States Naval Academy	500	1,436
Band, 100; cadets, 400.		
United States Air Force Academy	500	2,300
Band, 100; cadets, 400.		
United States Coast Guard Academy	500	24,301
Band, 100; cadets, 400.		
United States Coast Guard detachment	400	19,470
Administrative travel		2,053
Total, travel		70,000

Mr. RABAUT. The balance of $40,000 is requested for supervising final construction of the project, landscaping, and supplies for the ceremony. Explain for the record just what is planned with this $40,000.

Colonel GILLY. Mr. Chairman, we are embarrassed because we did not bring our supplemental request with us, not knowing we would discuss it today, but I think we can discuss it from memory. I believe Mr. Dorman would be able to furnish some of the details on this.

Mr. RABAUT. All right.

Mr. DORMAN. The bulk of the $40,000 item would be for two things: The landscaping of the plaza area, which is within the confines of the project, and the supervision, inspection, and administrative costs in the construction phase of the project which will start in fiscal year 1957.

Mr. RABAUT. You mean that this is the work that will be necessary in 1958 to complete arrangements prior to the ceremony?

Mr. DORMAN. Yes, sir.

Mr. RABAUT. Do you plan to enlarge the area to some extent?

Mr. DORMAN. Yes, sir; we are enlarging the plaza area.

Mr. RABAUT. Do you have any pictures of it here?

Mr. DORMAN. I have a picture which I would be glad to pass to the chairman. This picture shows only the part immediately adjacent to the tomb.

Colonel GILLY. That does not show the full plaza, Mr. Chairman.

Mr. DORMAN. We are, however, extending the plaza area approximately 50 feet on either side of the existing plaza area in order to more

adequately handle the ceremonies and protect the turf surrounding that area.

Mr. RABAUT. Well, I think that concludes the questions which I wanted to ask you.

Is there anything else that you wanted to tell us?

Colonel GILLY. No, sir.

Mr. RABAUT. Usually people do not want to tell us anything further when we are once through questioning.

Mr. ANDERSEN. Off the record.

(Discussion off the record.)

TYPES OF HEADSTONES AND MARKERS

Mr. JENSEN. I would like to ask who is responsible for the type of headstones and markers that are erected or buried, as you might call some of them, in these national cemeteries.

Colonel SCOGGINS. For the type of markers, sir?

Mr. JENSEN. Yes.

Colonel SCOGGINS. Our Department is, basically, sir.

Mr. JENSEN. Who determines what kind of headstones and markers shall be used?

Colonel SCOGGINS. The Office of the Quartermaster General, sir.

Mr. JENSEN. What has been the attitude of those who are responsible for the type of headstones and markers as of recent date, especially since there was so much opposition to changing the headstones from upright to the flat markers in the Punch Bowl Cemetery?

What is your attitude about it?

Colonel SCOGGINS. Sir, I can go back and give you a little background of the Hawaiian case. A committee went around and canvassed the people interested, in Hawaii, about the type headstones to be used there. They decided upon and recommended the flat-type stone, and they so recommended to the Department of the Army, and at that time we decided to put the flat stones in.

Mr. JENSEN. And have you done that any place else?

Colonel SCOGGINS. We have done that at two other cemeteries; yes, sir.

Mr. JENSEN. You know, I think that is criminal, honestly, and I will tell you why: When Mr. Andersen and I and another Congressman were driven to the Punch Bowl Cemetery, we were inside the cemetery before we realized we were in a cemetery. In fact, it just looked like an ordinary cow pasture, and of course, it was a terrible shock to us to see that those great patriots that had died for their great country had a marker that was buried in the ground. In some instances the grass had grown over the marker to the point where you had to rake the grass away with your hands in order to see who was buried there.

There was one great patriot whom every soldier in America loved. He was a great news reporter, and war correspondent, and there he was lying with just a slab buried in the ground. I am referring to Ernie Pyle. There was that slab below the level of the ground with the grass growing over it, and we had to rake the grass away in order to read the name of that great patriot, Ernie Pyle.

Now, I am telling you my heart sank, and I think I speak for most everybody who sees that cemetery. The reason it sank was

this: The thought came to me: "They are trying to hide the horrors of war."

I want not only this generation but every generation to be able to see where these great patriots are buried. I want them to be able to see it written on an upright marker that is there for all to see, and all to ponder over as to how that person who is buried there served this country, instead of being hidden below the surface of the ground. It appeared to me that someone wanted all of us to forget the horrors of war. I cannot think of anything else. I hope and I pray, my friends, that no other cemetery that contains the bodies of our brave boys is marked with a slab which the grass can grow over, and hide from recognition.

I shall have the feeling that I had when I entered into that cemetery go with me to my grave. It is wrong, and I hope you gentlemen know it. If any other municipality should ask that the markers on the graves of our brave boys be hidden in the ground, I hope you folks will say "Oh, no; no, no. We want those gravestones to be upright for all to see and recognize, and remember that 'there lies the body of a soldier or a sailor or an Air Corps veteran who served his country for all to see and all to ponder over and remember the horrors of war'."

That comes from the bottom of my heart, my friends. I do not expect you gentlemen to comment on it unless you want to. That is all, Mr. Chairman.

Colonel GILLY. I will convey your comments to the Quartermaster General.

Mr. JENSEN. I would like to have him read my remarks, because they come from the bottom of my heart.

Mr. ANDERSEN. I want to join with Congressman Jensen in what he has said. The impression I obtained when I first went to visit that particular cemetery was exactly as Mr. Jensen has expressed it, better than I could possibly do. I feel that we are making a great error in permitting that flat plate instead of the headstone in any of our national cemeteries.

Mr. JENSEN. Thank you, Carl.

Mr. FENTON. Colonel, is not that particular cemetery being taken over by the National Monuments?

Colonel SCOGGINS. No, sir. They are building a monument in the cemetery, but they are not taking over the cemetery. They are only building the monument in there. The Army will still maintain custody of the cemetery.

Mr. FENTON. I notice that on page 16 you have expenses for overseas cemeteries. How many overseas cemeteries do you maintain?

Colonel SCOGGINS. Three; one in Hawaii, one in Alaska, and one in Puerto Rico. The other military cemeteries overseas in Europe and the Philippines and in the Mideast are operated by the American Battle Monuments Commission.

Mr. FENTON. I am on that Committee. I wanted to get it straight what you had overseas. They are generally our territories.

Colonel SCOGGINS. That is right.

Mr. FENTON. That is all.

Mr. RABAUT. Off the record.

(Discussion off the record.)

Colonel SCOGGINS. Where we have the flat markers we put the flat markers in those cemeteries not to try to hide the inscriptions, but

because the trend of modern cemeteries at the time these were established was toward the flat markers. That is the reason that the flat markers were put in those three.

Mr. RABAUT. It is hard for us to adjust ourselves to such a change.

Mr. JENSEN. That is the family's business. This is Uncle Sam's business, to honor his graves.

Mr. RABAUT. Thank you very much, gentlemen, for appearing before us.

THURSDAY, MAY 2, 1957.

BONNEVILLE POWER ADMINISTRATION

WITNESSES

DR. WILLIAM A. PEARL, ADMINISTRATOR
E. C. STARR, CHIEF ENGINEER
EARL D. OSTRANDER, DIRECTOR OF ADMINISTRATIVE MANAGEMENT
MILLER EVANS, ACTING DIRECTOR OF OPERATIONS AND MAINTENANCE
ROGER L. CONKLING, DIRECTOR OF BUDGET AND MANAGEMENT

BUDGET AMENDMENT

Mr. RABAUT. We will take up the Bonneville Power Administration. The justifications before the committee reflect the changes proposed in House Document 162, the budget amendment reducing the total construction budget request by $5,658,000. We will insert House Document 162 and pages 2 through 18 in the record.

(The matter referred to follows:)

[H. Doc. No. 162, 85th Cong., 1st sess.]

COMMUNICATION FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING A PROPOSED AMENDMENT TO THE BUDGET FOR FISCAL YEAR 1958 FOR THE DEPARTMENT OF THE INTERIOR, INVOLVING A NET REDUCTION IN THE AMOUNT OF $5,658,000

THE WHITE HOUSE,
Washington, April 22, 1957.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith for the consideration of the Congress a proposed amendment to the budget for fiscal year 1958 for the Department of the Interior, involving a net reduction in the amount of $5,658,000.

The details of this amendment, the necessity therefor, and the reason for its submission at this time are set forth in the attached letter from the Director of the Bureau of the Budget, with whose comments and observations thereon I concur.

Respectfully yours,

DWIGHT D. EISENHOWER.

(Attachment.)

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D. C., April 17, 1957.

The PRESIDENT,
The White House.

SIR: I have the honor to submit herewith an amendment to the budget for the fiscal year 1958 for the Department of the Interior, involving a net reduction in the amount of $5,658,000, as follows:

"DEPARTMENT OF THE INTERIOR

"BONNEVILLE POWER ADMINISTRATION

Budget page	Heading	Original estimate	Change to—	Decrease
717	Construction	$30,800,000	$25,142,000	$5,658,000"

Major changes in construction plans for generation and transmission facilities have been announced recently by private utility companies operating in the Portland, Oreg., area. These changes will permit deferral of related Federal transmission grid facilities resulting in a reduction of $8,566,000 in the Bonneville Power Administration's construction program provided for in the budget for fiscal year 1958. Provision for increases in Federal construction costs and for a new customer service facility to meet needs which have been developed subsequent to submission of the budget, together with minor program adjustments, will serve to reduce the savings by $2,908,000.

I recommend that the foregoing proposed amendment be transmitted to the Congress.

Respectfully yours,

PERCIVAL BRUNDAGE,
Director of the Bureau of the Budget.

GENERAL STATEMENT

RESPONSIBILITIES AND ACTIVITIES OF BONNEVILLE POWER ADMINISTRATION

The Administration is responsible for the disposition of electric power produced by 16 Federal generating plants in service or under construction in the Pacific Northwest. To carry out this responsibility, it constructs and operates high-voltage transmission facilities which integrate the Federal power projects, transmit the output of Federal powerplants to load centers, and interconnect the Federal system with non-Federal utility systems throughout the region. The Federal transmission system is also utilized, under appropriate contractual arrangements, for the wheeling of power from a number of non-Federal generating plants. In addition, the Administration develops basic data relative to the long-term power needs of the region to provide a firm base for transmission planning and a guide to the additional generation which will be needed; conducts joint engineering studies with other regional power systems to determine the most efficient transmission network for service to the region; and actively participates with other Government agencies and non-Federal groups in planning for the continuing development of the region's potential hydroelectric resources to meet power needs.

FISCAL YEAR 1958 ESTIMATES

Total programs of the Bonneville Power Administration for the fiscal years 1957 and 1958 are summarized below:

	Fiscal year 1957 estimate	Fiscal year 1958 estimate
Construction program:		
New appropriations	$18,700,000	[1] $25,142,000
Utilization of carryover from prior fiscal years	4,644,000	
Total, construction program	23,344,000	25,142,000
Operation and maintenance program	7,595,000	[1] 8,630,000
Reimbursements	527,000	[1] 489,000
Total programs	31,466,000	[1] 34,261,000

[1] Includes payments into the retirement fund as follows:

Construction	$425,000
Operation and maintenance	365,000
Reimbursements	15,000
Total	805,000

These programs result in appropriation requirements for fiscal year 1958 of $33,772,000. Fiscal year 1958 appropriation requirements are compared in the following table with appropriations granted for fiscal year 1957:

Appropriation	1957 act	1958 estimate
Construction	$18,700,000	$25,142,000
Operation and maintenance	7,595,000	8,630,000
Total	26,295,000	33,772,000

As indicated in the program table, the construction program for fiscal year 1958 totals $25,142,000 as compared with $23,344,000 in fiscal year 1957. This increase stems from three principal factors:

(1) In the winter of 1955–56 powerloads throughout the Pacific Northwest rose far above forecasts. This situation forced the utilities supplied by the Administration to reforecast their loads for future years. The peak-load forecasts for January 1961, which is the end of the period for completing facilities proposed in this budget, were increased by 700,000 kilowatts over earlier forecasts for that time. Generating capacity required to meet these load increases is planned or under construction. The greater than normal load increase causes corresponding increases in requirements for transmission facilities and, therefore, requirements for fiscal year 1958 funds.

(2) Under the policy of comprehensive resources development, the Administration cooperates with non-Federal utilities in the region by making available its transmission grid for wheeling power from non-Federal generating plants. New non-Federal plants for which wheeling is contemplated in this budget are the Priest Rapids plant of the Grant County Public Utility District, which will be in operation by January 1961, and the Rocky Reach development of the Chelan County Public Utility District, which is scheduled for initial operation in the following year. The Priest Rapids and Swift projects will increase by approximately 1 million kilowatts the power transmitted, in whole or in part, over the Federal grid.

In addition to the new plants for which wheeling is contemplated under this budget, the Administration under previously approved budgets has undertaken wheeling arrangements for the Box Canyon plant of the Pend Oreille Public Utility District, the Mayfield plant of the city of Tacoma, the Pelton plant of Portland General Electric Co., and the Yale plant of the Pacific Power & Light Co.

The Federal grid system, being regionwide in scope and designed for the bulk transmission of power, is ideally suited for the wheeling of the output of new non-Federal plants, particularly where that output must be delivered to widely scattered load centers or where integrated transmission arrangements call for the flow of the non-Federal power into the Federal system at advantageous points.

Where non-Federal power must be delivered to a number of different load centers, required capacity additions to the Federal system for wheeling and integration are substantially less than the non-Federal additions which would be required to transmit power from the non-Federal plants to load centers over direct non-Federal circuits. The latter would also involve a duplication of facilities. Also, in many cases the new non-Federal plant is located at a point where its output can advantageously be fed into the Federal system for service to a local area, displacing Government deliveries which would otherwise have to be made from Federal plants further distant from the area, with significant savings to the Government in transmission capacity requirements for that area. Also, system stability and reliability are improved and power losses decreased. Wheeling is the practicable method under which the economic benefits of an integrated regional transmission system can be achieved.

Under long-term wheeling arrangements, the Government, by displacement and exchange of power, delivers to load centers the output of new non-Federal plants which is fed into its grid system. The Government is appropriately reimbursed for the costs of all capacity utilized for wheeling. New non-Federal transmission capacity to accommodate part of the output of the non-Federal plants is integrated with the Federal system under these arrangements.

(3) New legislation provides that starting in fiscal year 1958 the budgets of Government agencies share in the costs of the employee retirement fund. The estimate contained in the Bonneville Power Administration's construction budget for fiscal year 1958 is $425,000.

The increase of $1,035,000 in operation and maintenance requirements results from two factors:

(1) The expansion of the transmission system to carry to load centers the production of the new Federal plants. Additional costs for operation and maintenance occur as additional lines and substations are added, and as pool operations become more complex due to the greater number of plants operated in combination.

(2) Costs of the contribution to the retirement fund will be an estimated $365,000 in fiscal year 1958.

FISCAL YEAR 1958 CONSTRUCTION REQUIREMENTS

Additional scheduled generating capacity.—The Administration's fiscal year 1958 construction program provides for the completion or continuation of construction of facilities which have been previously authorized, and for the initiation of construction of the additional transmission capacity required to carry to load centers the power production of the new generating installations which are scheduled to be in operation by January 1961. Such additional capacity must be in service, of course, at the time the new generators are ready for operation. It is necessary to initiate work in fiscal year 1958 on all new major transmission circuits and substations scheduled for energization by January 1961 and one major line scheduled for completion in the fall of 1961. About 3½ years normally are required for construction of major system additions but major lines crossing the Cascade Range require 4½ years' construction time.

As of the beginning of fiscal year 1958, peaking capacity installed on the United States Columbia River power system together with non-Federal capacity for which wheeling arrangements have been undertaken by the Government will total 5,633,900 kilowatts. In the ensuing 4 fiscal years 2,330,400 kilowatts of additional combined Federal and non-Federal capacity will be added according to present installation schedules, including only non-Federal capacity for which wheeling is contemplated. This will bring to a total of 7,964,300 kilowatts the peaking capacity on the system at the end of fiscal year 1961, the closing year of the current budget period. These data are shown in detail in the following table.

Peak generating capacity additions

[Thousands of kilowatts]

	In service July 1, 1957	Scheduled for installation fiscal year 1958 budget period				Total in service July 1, 1961	Scheduled for later budget periods
		Fiscal year 1958	Fiscal year 1959	Fiscal year 1960	Fiscal year 1961		
Federal projects:							
Bonneville	570.0					570.0	
Grand Coulee	2,319.0					2,319.0	
Hungry Horse	328.0					328.0	
Detroit	115.0					115.0	
McNary	1,127.0					1,127.0	
Big Cliff	20.7					20.7	
Lookout Point	138.0					138.0	
Dexter	17.2					17.2	
Albeni Falls	49.0					49.0	
Chief Joseph	736.0	294.4	147.2			1,177.6	
Chandler	12.0					12.0	
The Dalles		358.8	358.8	358.8	179.4	1,255.8	
Roza		11.3				11.3	
Cougar					28.8	28.8	
Ice Harbor							310.5
Hills Creek							34.5
Total, Federal projects	5,431.9	664.5	506.0	358.8	208.2	7,169.4	345.0
Non-Federal projects under wheeling arrangements:							
Yale	133.0					133.0	
Box Canyon	69.0					69.0	
Pelton		120.0				120.0	
Swift No. 1 and No. 2 [1]							
Mayfield				160.0		160.0	
Priest Rapids					[2] 312.9	[2] 312.9	
Rocky Reach							[3] 710.0
Total non-Federal projects	202.0	120.0		160.0	312.9	794.9	710.0
Grand total	5,633.9	784.5	506.0	518.8	521.1	7,964.3	1,055.0
Cumulative grand total	5,633.9	6,418.4	6,924.4	7,443.2	7,964.3	7,964.3	9,019.3

[1] Initially the entire output of Swift No. 1 and No. 2 will be utilized by Pacific Power & Light Co. on nonwheeling basis. Later the Government will wheel the Cowlitz County Public Utility District share of the output.

[2] Excludes 230,243 kilowatts reserved by Grant County Public Utility District and 87,681 kilowatts purchased by Pacific Power & Light Co.

[3] Final determinations as to wheeling components pending.

Joint studies.—All electrical facilities proposed for construction in this budget have resulted from joint load, resource and engineering studies made by the Administration in cooperation with the customer utilities affected. Major system additions have been the subject of intensive analyzer board studies in which all of the larger utilities of the region have participated. In addition, all customers of the Administration have had an opportunity to review in detail each of the transmission facilities proposed for inclusion in the budget. These thorough joint studies and reviews, it is believed, insure that the facilities recommended are needed on the schedules proposed and do not duplicate any existing facilities, that they represent the best solution to the service problems at hand, and that they will constitute a wise investment for the Government.

Components of construction program.—The Administration's total fiscal year 1958 construction program compares with the fiscal year 1957 program by components as follows:

	1957 estimate	1958 estimate
Construction in progress	$14,460,000	$13,921,000
New construction	8,383,000	10,634,000
General plant (tools and equipment)	501,000	587,000
Total	23,344,000	25,142,000

These components are discussed in the following paragraphs:

Transmission and substation facilities under construction.—Requirements in fiscal year 1958 for construction in progress will total $13,921,000. Of this amount $12,900,000 is needed for major grid and local electrical facilities and $1,021,000 for general system additions.

The electrical facilities component includes the completion during fiscal year 1958 of 350 miles of 230-kilovolt and higher voltage transmission lines, 100 miles of 115-kilovolt and lower voltage transmission lines, and 7 new substations having a total capacity of 300,000 kilovolt-amperes; and continuation of construction of 215 miles of 230-kilovolt and higher capacity lines, 160 miles of 115-kilovolt lines, and 6 new substations having a total capacity of 588,000 kilovolt-amperes. Major work underway in 26 existing substations will add 1,200,000 kilovolt-amperes of 230/345-kilovolt transformer capacity and 1 million kilovolt-amperes of lower voltage transformer capacity, 90,000 kilovolt-amperes of reactive capacity, and miscellaneous other system improvements such as circuit breaker additions and replacements. The 230/345-kilovolt transformer capacity is associated with the conversion to 345-kilovolt operation of the Chief Joseph-Covington circuit.

The general system additions component includes three buildings for storage, operations, and maintenance use, and installations of radio, telemetering, and supervisory control equipment.

The major electrical facilities which will be in progress of construction will transmit Chief Joseph power to the Puget Sound area (items 108, 109, and 204); interconnect The Dalles powerhouse with the main grid (item 116); reinforce existing facilities in the Seattle, The Dalles, Portland, southwest Oregon, Pasco and eastern Grant County, Wash., Lincoln County, Oreg., northwestern Montana and north central Oregon areas (items 113, 116, 119, 125, 131, 132, 134, 136, 139, 144, 355, 635, and 713), and transmit the output of the Portland General Electric Co.'s Pelton, Oreg., hydroelectric plant to the main grid (item 129).

New projects.—New projects proposed will require $10,634,000 in fiscal year 1958, of which $8,306,000 is for electrical facilities and $2,328,000 for general system additions. The electrical facilities component includes the initiation in fiscal year 1958 of 313 miles of 230-kilovolt and higher voltage transmission lines, 90 miles of 115-kilovolt transmission lines, and 4 new substations having a total capacity of 42,000 kilovolt-amperes. Major work to be initiated in 19 existing substations will add 340,000 kilovolt-amperes of transformer capacity, 325,000 kilovolt-amperes of reactive capacity, and miscellaneous other system improvements, including circuit breaker additions and replacements and a neutral booster for completion in fiscal year 1958 and later years.

The more important of the new projects are a 230-kilovolt line from the Franklin substation to the Walla Walla substation to reinforce the existing circuit between these points, a 287-kilovolt line from Rocky Ford to Tacoma to accommodate changed power flows on the Federal grid resulting from the Grant County Public Utility District Priest Rapids generation, and a major line from Chief Joseph to the Puget Sound area to integrate the Rocky Reach plant of the Chelan County Public Utility District with the main grid.

General system facilities include two storage buildings, site improvements; installations of telemetering, radio and hydrologic reporting equipment; customer service transformer additions; and circuit breaker replacements.

Tools and equipment.—This program consists primarily of replacement of obsolete, overage, and outworn vehicles, and construction, shop, laboratory communication and office equipment. The total requirement in fiscal year 1958 is $587,000.

FISCAL YEAR 1958 OPERATION AND MAINTENANCE REQUIREMENTS

Fiscal year 1958 requirements for operation and maintenance by major activities are summarized below with comparable fiscal year 1957 data:

Activity	Fiscal year 1957	Fiscal year 1958	Payment into retirement fund	Total fiscal year 1958
System operation and maintenance	$6,637,000	$7,254,000	$309,000	$7,563,000
Power contracts and rates	274,000	274,000	16,000	290,000
General administration	684,000	737,000	40,000	777,000
Total, operation and maintenance	7,595,000	8,265,000	365,000	8,630,000

The Administration has a service responsibility over and above that of the usual utility in that it is a major supplier of power to publicly owned and privately owned utilities in the Pacific Northwest. In addition, the Administration serves industrial customers whose processes require a continuous supply of electric energy. In meeting these responsibilities the Administration must operate and maintain its transmission system to assure continuity of service.

Maintenance of equipment is based not only upon 17 years experience as an operating utility but also upon the experience of other utilities and recommendations of manufacturers. The frequencies of maintenance are generally lower than other utilities and definitely lower than those recommended by manufacturers; yet, the Administration is able to render a high degree of service because of a well-developed preventive maintenance program and careful training of crews. These frequencies of maintenance represent averages, as experience has indicated that new equipment requires a "shakedown" period. After this period it is carefully checked and adjusted. The next scheduled preventive maintenance is based upon a designated time interval unless the equipment has been subjected to unusually severe operating conditions. By means of this shakedown check, followed by maintenance at normal frequencies and awareness of severe operating conditions, an economical maintenance program has been developed resulting in a high degree of service at a reasonable cost.

The level of substation manning is such as to be consonant with the required continuity of service and not result in excessive operating costs. This optimum performance is accomplished through experience, through careful training of operators including apprentices, and through operating agreements with other utilities which eliminate the need for BPA substation operators at certain locations. During their training program, apprentices stand shifts so that a large portion of their time is gainfully used in the replacement of journeyman operators. As supervisory control equipment is developed, this type of control reduces the need of operators at controlled substations and helps toward rapid restoration of service. Manning of substations is at the same level as previous years for existing equipment. Additional manning is required only where additional facilities have been installed or new substations constructed.

The following activities will be performed at higher levels in fiscal year 1958 than in 1957: (1) operational studies, (2) analyses of power resources and loads required for system operation and participation in the planning for the development of new power resources, which include determination of operating plans for the Federal projects, (3) coordination with the Northwest power pool, (4) staff work for regional power development committees, and (5) integration studies of new non-Federal generating plants. Preliminary studies currently being made need to be refined, both as to the impact upon the Government's system and methods of operation, and as to precise methods of integrating non-Federal plants with the Federal generating system. No additional funds are required from the need for more intensive technical studies due to the effect of proposals for new non-Federal hydroprojects as these come nearer to fruition, as adjustments in other expenses have offset the increase in personal services to perform these studies.

The following statistics illustrate the continuing growth of the system:

Facilities in operation	July 1955	July 1956	July 1957	July 1958
Generating plants in operation	9	11	11	13
Miles of transmission lines (circuit miles)	6,702	7,194	7,338	7,662
Number of substations	174	178	185	191
Transformer capacity (kilovolt-ampere)	7,337,000	8,009,000	10,795,000	12,919,000

Fiscal year 1958 estimates for power contract and billing work are essentially the same as for 1957.

The fiscal year 1958 estimates for general administrative activities, which include personnel, administrative services, procurement, accounting, and budget work, are slightly higher than the previous year. Staffing for these activities in fiscal year 1958 is held at the same level as the previous year, but the operation and maintenance appropriation requirement is increased since the staff will devote a higher proportion of its time to operation and maintenance and less to construction.

POWER SITUATION

Last year.—Streamflow resources of power streams in the Pacific Northwest were generally better than average during the 1955–56 operating year. The Administration supplied all requirements of the public agencies, privately owned utilities, and industries. Interruptible industrial loads were curtailed to the extent of 97,000 kilowatts during the peak-load hours of 2 days in mid-November. This shortage resulted because of large increases in peak and energy loads caused by abnormally cold weather. Fortunately, these temperatures occurred when streamflows were relatively high and reservoirs were at or near top elevation, affording maximum system peaking capabilities. But even under those favorable water conditions steam-electric generation ranging from 100,000 to 220,000 kilowatts was required during the heavy-load hours.

Current operating year to December 25, 1956.—Streamflow resources were adequate to meet all Bonneville Power Administration and area loads directly from hydro through the month of September. By October 1 streamflows approached critical conditions and Bonneville Power Administration industrial power had to be curtailed. This action became necessary because the estimated hydro resources available were not sufficient to supply interruptible power without endangering ability to serve all firm loads for the remainder of the operating year. During the first half of the month of October about 400,000 kilowatts of interruptible industrial load was served from Hungry Horse provisional[1] and the Bonneville Power Administration and 100,000 kilowatts from the California Oregon Power Co. via Eugene and Yamsay interconnections.

By October 15 hydro resources improved to the extent that imports from the California Oregon Power Co. were reduced to 65,000 kilowatts. Continued improvement of hydro resources enabled Bonneville Power Administration on October 24 to renew serving the interruptible load directly from hydro resources in the amount of 300,000 kilowatts without the aid of outside resources. The balance of the interruptible load requirement, about 200,000 kilowatts, was met by the continued use of provisional power from Hungry Horse storage. Further improvements in resources enabled the Bonneville Power Administration to serve all interruptible industrial power by the end of October without recourse to provisional storage. This favorable water resource situation prevailed until December 7 when continuing streamflow recessions made it again necessary to serve the interruptible load on a provisional basis. Beginning on December 8 and continuing through December 25 warming temperatures and above-normal precipitation again increased area resources. The increase was not sufficient to assure service to all loads including interruptible for the balance of the season. However, on December 21 Federal hydro generation was restored to one-half of the interruptible industrial load, the balance being carried by non-Federal hydro and a small amount of provisional power.

New generation records have been established for the Federal plants. The alltime peak generation reached 4,795,000 kilowatts on December 6, 1956, with a maximum 24-hour generation of 98,656,000 kilowatt-hours occurring on December 7.

Current operating year, storage drawdown period, December 26, 1956, to mid-April 1957, under adverse hydro conditions.—Streamflow resources as of December 26 indicate that under subsequent adverse weather conditions the water resources through the remainder of the operating period will provide an improvement of about 20 percent over critical streamflow conditions. This improvement will enable the Administration to meet about 30 percent of the privately owned utilities' requirements above firm commitments. The Bonneville Power Administration, however, will not be able to continue service to loads of the interruptible industrial customers unless extremely favorable conditions should occur. With adverse weather conditions the remaining loads of the privately owned utilities of the west group of the Northwest power pool as well as certain portions of the interruptible industrial customers' requirements can be served from available steam and hydro imports to the extent of 475,000 kilowatts. The privately owned utilities will require about 400,000 kilowatts of the avail-

[1] The provisional energy contracts between Bonneville and the industries provide that when the interruptible industrial load is curtailed because of low-water conditions special Hungry Horse storage release can be requested by the interruptible customers. If, as a result of such releases, the Administration at a later time cannot meet its firm obligations the interruptible customers are obligated to either replace the energy taken by steam purchase or by reducing their firm loads on the Federal system.

able steam and hydro imports, leaving only the highest cost increment for interruptible industrial loads.

Current operating year, storage drawdown period, December 26, 1956, to mid-April 1957, under median hydro conditions.—Streamflow resources of about 20 percent better than median are required in the Columbia River Federal system to meet all the area requirements including dump requirements of the privately owned utilities and the interruptible industrial loads. Should only median-month streamflow conditions prevail during the remainder of the operating season all of the privately owned utilities' requirements will be met and in addition 68 percent of Bonneville Power Administration interruptible industrial loads can be served. The remaining portion of the interruptible industrial loads of about 170,000 kilowatts can be met from hydro imports, steam-electric generation, and other miscellaneous resources available in the Northwest power pool.

Future years under critical hydro conditions.—Under critical year hydro conditions and on the assumption that Federal projects presently under construction will be completed on schedule all of the firm requirements of the public agencies and industries can be met from Federal hydro resources for the years 1957–58 through 1965–66. During the storage drawdown season in these years the Administration, however, can only supply limited amounts of power to the privately owned utilities and none for the interruptible industrial loads. Prior to 1960–61 about 55 percent of the requirements of the privately owned utilities could be supplied. This supply would decrease to about 12 percent by the year 1962–63 and to none in subsequent years. The requirements of the private utilities over and above their own hydro resources, both existing and under construction, range from about 900,000 kilowatts in 1957–58 to about 1,350,000 in 1962–63, and 2,200,000 kilowatts in 1966–67. If these additional requirements are to be met added generation in corresponding amounts must be installed.

Prior to 1962–63 the requirements of the privately owned utilities not supplied by the Administration could be met by available hydro and steam generation in the Northwest power pool. This assumes that construction schedules are maintained on the Brownlee and Oxbow plants on the Snake River under construction by the Idaho Power Co. and the Priest Rapids project on the main Columbia presently under construction by the Grant County Public Utility District. By 1962–63 additional hydro plants (Wanapum, Rocky Reach, Mossyrock, Swift, Mountain Sheep, and Pleasant Valley) would have to be in production to fully meet the above-mentioned requirements of 1,350,000 and 2,200,000 kilowatts of the privately owned utilities through 1965–66. A deficiency of about 400,000 kilowatts would occur in 1966–67 even with the construction of the above-mentioned projects.

Variable amounts of the interruptible industrial loads could be met by the purchase of steam generation by industries each year through 1959–60. In subsequent years through 1963–64 all of the interruptible could be met either by a combination of the use of hydro and steam generation resources or the use of hydro resources alone. However, by 1964–65 this favorable situation would reverse itself again where only portions of the interruptible industrial load could be met in that year and none in 1966–67.

Future years under median hydro conditions.—Under median conditions from 1957–58 through 1961–62 the Administration could serve all the requirements of the public agencies, private utilities, and firm industrial loads and on the average about 50 percent of the interruptible industrial loads. The remaining 50 percent of the interruptible industrial loads could be fully supplied in these years from a combination of hydro and steam generation available in the power pool. Beginning with the year 1962–63 the Administration would fall short in meeting the requirements of the privately owned utilities ranging in amounts from about 200,000 kilowatts in 1962–63 to about 1,700,000 kilowatts in 1966–67. None of the interruptible could be supplied by the Administration in the years 1962–63 through 1966–67.

The requirements of the privately owned utilities in the operating years 1962–63 through 1963–64 not met by the Administration will be supplied through the construction by these utilities of the presently licensed hydroelectric projects and from steam generation resources available in the pool. Additional hydro projects scheduled but not yet licensed will have to be built in order to fully meet the requirements of the privately owned utilities through the year 1966–67. Limited amounts of interruptible industrial loads could be met from surplus hydro resources and steam generation available in the power pool through the year 1963–64. Beginning with the year 1964–65 only limited amounts of high-

cost steam would be available to the interruptible industrial loads and none in the immediate years following. Therefore, unless some or all the presently scheduled but not licensed hydroelectric projects are built by the non-Federal utilities these loads cannot be supplied by any means.

Need for new resources.—From the foregoing it can be seen that there is a critical need for new resources in the area. Recently a comparison has been made of estimated loads and resources for the west group of the Northwest power pool. This shows that with the completed development of all Federal projects under construction, all non-Federal projects licensed and currently under construction, and by the use of all available steam-generated energy during critical years there will be large area deficiencies of electrical energy starting in the year 1962–63. The deficiency in that year amounts to 311,000 kilowatts and is increased to 751,000 the following year. In the year 1964–65 the shortage becomes 1,137,000 kilowatts; in 1965–66, 1,554,000 kilowatts; and in 1966–67, 1,992,000 kilowatts. If such non-Federal projects as Wanapum, Rocky Reach, Mossyrock, Swift, Mountain Sheep, and Pleasant Valley, some of which are already licensed, are constructed there will still be a deficiency in 1966–67 of 437,000 kilowatts. Since it takes from 3 to 6 years to construct a large hydro power project, it will obviously be necessary to start construction of several additional projects in the next 3 or 4 years, as well as maintain schedules for projects licensed or under construction, or both. A minor power shortage developed last November, as previously mentioned. Power shortages seriously affect the area's economy, and serious shortages are faced in the future, as indicated above. The Administration is actively participating in the regionwide planning which must precede the construction and scheduling of needed new sources of electrical energy in the Pacific Northwest.

FINANCIAL POSITION

The accounts of the commercial power operations of the Columbia River power system, which include the Bonneville Power Administration transmission network and the hydroelectric generating projects of the Bureau of Reclamation and the Corps of Engineers for which the Bonneville Power Administration is the marketing agent, are subject to an annual commercial type audit by the General Accounting Office. This audit shows that the Government's power operations in the Pacific Northwest are in a sound financial position.

Revenues and expenses fiscal year 1956.—Favorable streamflows in the Columbia River Basin during fiscal year 1956, together with the installation of additional generating units in service at the various dams under construction, resulted in gross operating revenues of $60,992,623.[2] This was an increase of $8,926,141 or 17.1 percent over the $52,066,482 reported for fiscal year 1955.

While gross revenues will continue to increase in subsequent years due to the installation of additional generating units, it is expected that net revenues will not reflect a proportionate increase due to two major factors:

1. Postponement of any increase in the Administration's wholesale power rates until December 1957, or later, and
2. The higher construction costs of new dams and powerplants being placed in service.

An additional factor which also affects current costs is the necessity of building major transmission facilities to transmit power from the new hydroelectric projects. When the first generating unit at such projects goes into service, the full capacity of the transmission investment may not be utilized until additional units are placed in service, with the result that during the developmental period for a new generating plant, transmission costs will be disproportionate to actual production of revenue.

Of the $60,992,623 gross revenues of the Columbia River power system in fiscal year 1956, $14,811,937, or 24.29 percent was applied to operating and maintenance cost; $18,539,972, or 30.40 percent was applied to depreciation expense; and $21,691,302, or 35.56 percent was applied to interest expense, leaving a net revenue for fiscal year 1956 of $5,949,412, or 9.75 percent of gross revenue.

Cumulative revenues and expenses from inception to June 30, 1956.—Total operating revenues of the commercial power operations of the Columbia River power system from inception to June 30, 1956, were $462,805,892. Of this amount $125,010,270, or 27.01 percent was applied to operation and maintenance

[2] These are the combined revenues of the Columbia River power system and include amounts totaling $158,626 collected directly at the generating plants as well as those collected by the Bonneville Power Administration.

cost; $101,347,677, or 21.90 percent, was applied to depreciation expense; and $137,702,338, or 29.75 percent, was applied to interest expense, leaving net revenues of $98,745,607, or 21.34 percent.

ACCOUNTING CHANGES

The General Accounting Office in preparing financial statements pursuant to its audit of the Columbia River power system for fiscal year 1956 adopted two changes in accounting practice. Although the amounts involved are large, they are bookkeeping changes and do not affect the payout requirements or rate levels of the Columbia River power system. The two changes may be noted briefly as follows:

1. Prior to 1956, interest and depreciation charges on the portions of the investment at the Grand Coulee, Hungry Horse, and Albeni Falls Dams allocated to future downstream river regulation were accounted for as deferred charges recoverable from future operations. In the 1956 financial statements the General Accounting Office discontinued the deferral of these charges and wrote off against accumulated net revenues the total amount, $17,387,795, that had been accrued to June 30, 1955. Had the former practice been continued in 1956, the net revenue for that year would have been approximately $1,100,000 greater than the net of $5,949,412 shown above, and the accumulated net revenues as of June 30, 1956, would have been approximately $117 million instead of the $98,745,607 shown above.

2. In prior years the excess of system power revenues allocated to the Corps of Engineer's generating projects over the annual costs at such projects charged to power operations was accounted for as payment in excess of costs or, in effect, as advance provision for depreciation expense rather than as net revenues. In the 1956 financial statements the General Accounting Office discontinued this rather technical accounting practice and treated the excess of revenues over costs at these generating projects as net revenues. This change does not affect the accumulated net revenues for the Columbia River power system.

Capital investment of the United States Government and status of repayment as of June 30, 1956.—Total capital investment of the United States Government in the commercial power components of the operating projects only as of June 30, 1956, amounted to $1,288,752,939. This is shown on the tables below. The amount of this power capital investment repaid as of June 30, 1956, was $202,176,121, or 15.68 percent. After the application of this repayment, the net power capital investment in these operating projects as of June 30, 1956, amounted to $1,086,576,818. In addition to the above repayment of capital, operating and maintenance expenses in the amount of $109,810,627, and interest expense of $137,702,337 have been repaid to June 30, 1956. The operating, maintenance, and interest expenses are repaid annually.

COLUMBIA RIVER POWER SYSTEM

Summary of Federal investment in the operating power projects and repayment as of June 30, 1956

	Gross investment	Repayments	Net investment
Investment in current expenses:			
Operation, maintenance, etc.	$109,810,627	$109,810,627	
Interest [1]	137,702,337	137,702,337	
Total current expenses	247,512,964	247,512,964	
Capital investment:			
Invested capital [2]	1,288,752,939	202,176,121	$1,086,576,818
Unexpended (uninvested) appropriation	33,709,965		33,709,965
Gross capital investment	1,322,462,904	202,176,121	1,120,286,783
Total Federal investment	1,569,975,868	449,689,085	1,120,286,783

[1] The Columbia River power system does not receive appropriations for payment of interest, but imputes and includes in its accounts provisions for interest expense and returns receipts to the Treasury as repayment of such expense.

[2] Includes interest during construction of $57,898,120, which will be repaid to the Treasury as part of the capital cost of electric plant.

Return of power capital investment in individual projects (operating projects only) as of June 30, 1956

Project	Power capital investment [1]	Repaid as of June 30, 1956	Percent repaid	Net power investment [1]
Bonneville Power Administration	$412,098,423	$103,597,391	25.14	$308,501,032
Bonneville Dam	59,839,067	24,662,894	41.22	35,176,173
Columbia Basin	207,000,732	51,972,069	25.11	155,028,663
Hungry Horse	87,502,575	4,783,408	5.47	82,719,167
Albeni Falls	30,549,396	641,061	2.10	29,908,335
McNary	272,972,262	12,843,739	4.71	260,128,523
Detroit-Big Cliff	41,905,270	2,044,687	4.88	39,860,583
Lookout Point-Dexter	41,542,590	1,053,352	2.54	40,489,238
Chief Joseph	131,848,105	455,850	0.35	131,392,255
Chandler	3,494,519	121,670	3.48	3,372,849
Total	1,288,752,939	202,176,121	15.68	1,086,576,818

[1] Exclusive of unexpended funds in U. S. Treasury

Mr. RABAUT. Have you a general statement, Doctor?

Mr. PEARL. Yes, but I would like to submit it for the record. Also, if I may, I would like, by the use of a few charts, to cover the budget verbally for you.

Mr. RABAUT. All right, please submit your statement for the record.

(The matter referred to follows:)

STATEMENT OF THE ADMINISTRATOR

Mr. Chairman and members of the committee, I appreciate this opportunity to outline for you our appropriation requirements for fiscal year 1958, and our plans which underlie these requirements.

Before discussing these matters, however, I would like to mention that I sincerely believe our budget request is of real importance to a large area of our country, the Pacific Northwest. Electric service is more and more becoming an indispensable part of every aspect of our national life—we rely on electricity for innumerable uses in our homes, stores, factories, in all phases of our national economy. In the Pacific Northwest region, the Government's role in this power-supply picture is direct and somewhat unique. In the Northwest, Government generating plants produce a major share of all electricity used. Bonneville Power Administration's high-voltage transmission grid blankets the region to carry this power to distributors and wholesale industrial customers. The smooth and effective functioning of our high-voltage grid system is basic to reliable service. I feel that it is no exaggeration to say that poor functioning of our system can have immediately adverse effects upon many thousands of people. Improper operation or faulty maintenance of our system can blacken entire towns and counties. Slippages of our schedules for construction can put service to equally large areas on a marginal basis.

Our budget plans, both for system management and construction, reflect the utility nature of our responsibilities. These plans, as they must, result directly from our share of the requirements of the Pacific Northwest region for electric service. This necessarily means that we have little flexibility and freedom in planning and adjusting schedules. As a utility operation, our plans—and, therefore, our budget requirements—follow from developments over which we have little, if any control.

Our budget request for fiscal year 1958 is higher than for the current fiscal year. In comparing the change, it is necessary to differentiate between the increases in our program requirements, which represent the change in our levels of activity, and the substantially higher increases in our appropriation requirements, which result from other factors in addition to the change in activity levels. The following tables show program and appropriation changes and the relationship between program and appropriation increases.

Program comparisons

	Fiscal year 1957	Fiscal year 1958	Program increase (comparable basis)
Construction:			
Program requirements, excluding retirement costs	$23,343,652	$24,717,000	$1,373,348
Retirement costs		425,000	
Subtotal, construction	23,343,652	25,142,000	
Operation and maintenance:			
Program requirements, excluding retirement costs	7,595,000	8,265,000	670,000
Retirement costs		365,000	
Subtotal, operation and maintenance	7,595,000	8,630,000	
Total, construction and operation and maintenance			2,043,348

Appropriations comparisons

	Fiscal year 1957	Fiscal year 1958	New appropriations increase
Construction:			
New appropriations	$18,700,000	$25,142,000	$6,442,000
Carryover	4,643,652		
Subtotal, construction	23,343,652	25,142,000	
Operation and maintenance	7,595,000	8,630,000	1,035,000
Total, construction and operation and maintenance			7,477,000

Construction

As shown on the tables, our construction program for 1958, on a basis comparable to 1957, is increasing by $1,373,348. This results from two factors:

1. An upward revision in load estimates, resulting in an increase aggregating about 700,000 kilowatts over earlier forecasts for January 1961, the end date of our budget planning period. This increase forces a substantial acceleration of our construction schedules. Parenthetically, I might add that our presently forecasted loads are still quite conservative even though they are higher than formerly;[1] and
2. Provision in our budget plans for capacity for wheeling power from new non-Federal generating plants, a function to which I will refer again in more detail in a moment.

The difference between our construction program increase of $1,373,348 and our increased appropriation requirements for construction of $6,442,000 results largely from the availability in 1957 of carryover funds totaling $4,643,652 to supplement current appropriations. We estimate that we will have no carryover funds available in fiscal year 1958. The other element of the difference is due to a change in the law affecting the method of making payments into the Government's retirement fund. Pursuant to this change, we are including in our budget, for the first time in 1958, amounts to cover retirement-fund payments. The amounts attributable to the Bonneville construction program total $425,000.

Operation and maintenance

Programwise, our operation and maintenance requirements are increasing by $670,000, reflecting the added costs of servicing the additional facilities on our system and the increased complexity of power-pool operations. In addition to

[1] The load estimates on which BPA's construction budget is based indicate load growth at the rate of 6 percent compounded annually. This compares to a forecasted growth of 8 percent, compounded annually, for the United States as a whole (Seventh Annual Electrical Industry Forecast, published in the September 7, 1956, issue of the Electrical World, vol. 146, No. 12). A number of distributor customers of BPA have experienced rates of increase of 15 percent or more. BPA's load estimates are summations of the estimates of its wholesale customers.

the effect of this program increase, our appropriation requirements are increased over what they would otherwise be, due to the previously mentioned payments into the retirement fund, and $365,000 is needed to cover payments for the operation and maintenance program.

Basis for estimates

With the funds requested, it will be possible for us to render a good grade of utility service throughout our farflung Pacific Northwest system. We will be able to construct the grid additions which are required to carry the output of new Federal generators coming on the line and to meet loads. We will be in a position to provide capacity for wheeling non-Federal power where that represents the most efficient transmission arrangement.

Our budget estimates are, I think, quite precise. For several years we have been strenuously endeavoring to improve the accuracy of our estimates. Results of our endeavors were demonstrated last year. Our fiscal year 1956 operation and maintenance program actually amounted to 99.95 percent of our estimates as we presented them to you last year. Our construction program amounted to 99.68 percent of estimates. We forecast a construction carryover into 1957 of $4,422,000. Our actual carryover was $4,643,652, within 5 percent of the estimate. I am confident that in fiscal year 1957 our performance will approach the estimates we are showing you just as closely.

Obligations and costs

I should like to call your attention to a change in the form of presentation of our budget in response to Public Law 863, which provides that budgets transmitted to the Congress contain information on program costs. Our budget justifications now contain data on costs as well as the obligation data which we have shown in the past. Obligations represent goods and services placed on order, whereas costs represent goods and services used. Therefore, the difference between costs and obligations essentially is one of timing, obligations preceding or being concurrent with costs.

CONSTRUCTION PROGRAM

Power-system construction appropriations are wholly investment funds. The Government's investment in the Federal power system in the Pacific Northwest has proved to be sound. As of June 30, 1956, net revenues from the beginning of operations were $98,745,607, after meeting full costs of operation, maintenance, interest, and depreciation for generating plants as well as transmission. Gross revenues for this period were $462,805,892. A total of $202,176,121 of the power capital investment has been repaid as of June 30, 1956. This is $77,145,485 ahead of the schedule of repayment.

A construction program of $25,142,000 is scheduled in fiscal year 1958. By components, this program consists of—

	Amount	Percent of total
Construction in progress	$13,921,000	55.4
New construction	10,634,000	42.3
General plant (tools and equipment)	587,000	2.3

"Construction in progress" provides for continuance of work on projects which you have previously approved. "New construction" provides for projects which are being initially recommended this year. These new projects are made necessary by customer load growth and additions to generating capacity. Transmission facilities are recommended to accommodate the additional 1,700,000 kilowatts of Federal generating capacity which will come into operation between July 1, 1957, and July 1, 1961. Provision also is made for capacity to wheel over the Federal grid the output of two new non-Federal generating projects, under arrangements with the utilities concerned. These projects are Priest Rapids and Rocky Reach.

I cannot overemphasize the importance of wheeling to the economics of power transmission in the Pacific Northwest. It is well recognized that the Government's system is the basic high-voltage grid—the regionwide skeletal framework—upon which wholesale electric service in the Northwest largely depends.

This is a highly developed electrical system, specially designed for the bulk transmission of power. Because it is a bulk carrier, with high utilization of capacity and operated in many sections at the more advanced voltages, it is an extremely efficient and economical system. Additions to this system to accommodate new power sources in most cases are much more economical than would be a new parallel system adequate to accomplish the same purpose. In many cases, also, the location of a new generating plant is such that its output under wheeling enters the Federal grid at a point where substantial savings result to the Government due to decreased losses and postponement of new lines. For these reasons I feel it is essential if we are to maintain efficiency in transmission in this area, that the Federal grid, expanded as required, be made available to transmit non-Federal as well as Federal power.

There is another very practical reason for our wheeling policy. Wheeling over the Federal system is the only way in which power from a new non-Federal plant can be sold over a wide area, and to a number of small as well as large purchasers. The Priest Rapids development illustrates this very well. Because of wheeling, it has been possible for the Grant County Public Utility District, owners of the project, to sell power to 12 different utilities.

The amounts sold range from 2,523 kilowatts to 87,681 kilowatts. The minimum distances over which the power must be transmitted vary from a few miles to 370 miles. An independent transmission system to accompany this marketing pattern would be prohibitively expensive to the purchasers. Moreover, since it would not be a bulk carrier, it would be a much more expensive system than the Government's. It would duplicate unnecessarily the Government's system. Power lost in transit would be greater. In short, the advantages of an integrated grid would be lost.

As part of our planning for wheeling, we have developed contractual arrangements under which wheeling services will pay their full way. The Government's investments in wheeling capacity will be adequately safeguarded. The arrangements will benefit the entire region.

Some of the principal new items which we are recommending for construction are:

Columbia-Quincy No. 2 (item 140), a second 14-mile 115-kilovolt transmission line from Columbia substation to Quincy, Wash., to supply the increased power requirements of the western part of Grant County.

Franklin-Walla Walla (item 162), a 230-kilovolt line approximately 36 miles long from Franklin substation to Walla Walla substation, to provide additional capacity to meet the power needs of the Walla Walla-Lewiston area.

Rocky Ford-Tacoma (item 171), a 156-mile, 287-kilovolt transmission line from Rocky Ford to Tacoma to accommodate changed power flows on the Federal grid resulting from Priest Rapids generation.

Cougar-Eugene (item 175), a 45-mile, 115-kilovolt line to deliver the output of the Cougar hydroelectric plant to the main grid, a 16-mile section from Leaburg to Blue River is being accelerated to provide a temporary service arrangement for the Lane County Electric Cooperative.

Chief Joseph-Rocky Reach-Valley (item 180), planning and partial surveys in fiscal year 1958 for a major circuit from Chief Joseph via Rocky Reach to the Puget Sound area, to integrate the Government's Chief Joseph plant and the new Rocky Reach plant of the Chelan County Public Utility District and to accommodate the increased power flows to the Puget Sound area.

South Bend area service (item 212), 5 miles of 115-kilovolt line from Raymond substation to South Bend, Wash., and a 12,000-kilovolt-ampere substation at South Bend, to supply the increasing power requirements of the Pacific County Public Utility District.

Southwestern Grant County service (item 243), the 12,000-kilovolt-ampere Jerico substation supplied by a 7-mile 115-kilovolt tap, to serve the Grant County, Wash., Public Utility District and the Bureau of Reclamation.

Spokane Valley area service (item 619), the 12,000-kilovolt-ampere Vera substation and a 4.5 mile, 115-kilovolt tapline, to supply the Vera Irrigation District and the Inland Power & Light Co.

Eagle Lake area service (item 620), the 6,000-kilovolt-ampere Eagle Lake substation, with a 10-mile, 115-kilovolt tapline, to serve the Big Bend Electric Cooperative (Washington) and the Bureau of Reclamation.

The above items, together with all others in our budget, result from joint engineering planning of the Administration and the concerned utilities, public and private. There is complete concurrence that the facilities proposed are required on the schedules indicated. Schedules of the interconnecting utilities for con-

struction of related new subtransmisison and distribution facilities mesh with the Federal schedules.

Costs

Fiscal year 1958 construction costs will total $28,478,000, as compared with obligations of $25,142,000.

OPERATION AND MAINTENANCE PROGRAM

In operating the transmission system we make every effort to give reliable electric service, protect employees and equipment from hazards, and keep costs within industry standards. We maintain the system with the objective of preventing costly outages and expensive deferred maintenance.

One measure of operating costs is the portion of the revenue dollar used. In fiscal year 1958, $2,774,700 of an estimated $74,400,000 in revenue will be used for direct system operation. This represents 3.7 cents of the revenue dollar.

Maintenance costs may be measured in relation to plant in service. The fiscal year 1958 direct maintenance program of $4,016,200 compares with estimated average plant in service of $411 million, or less than 1 cent per dollar of plant in service.

Our direct operation and maintenance programs are developed from detailed cost data. Operations estimates precisely reflect requirements for the planned manning of substations, which manning is established for each individual substation on the basis of reliability of service required, amount and complexity of equipment, frequency of switching operations and similar factors. Maintenance estimates are built up by applying actual past unit costs for each type of maintenance work to the number of units of that type which must be maintained during the year.

An essential part of system operations and maintenance is the scheduling of power resources, the forecasting of power requirements, and general engineering. These activities, amounting to $772,100, account for 8.9 percent of the total operation and maintenance program.

Negotiation of power contracts, development of power rates, preparing power bills, and working out plans of service with customers, will require $290,000 or 3.4 percent of the total program.

The management or general administration of our system includes such activities as personnel, labor relations, accounting, supply, and budget. The $777,000 requested for these activities is 9 percent of the operation and maintenance program.

Our total appropriation request of $8,630,000 for operation and maintenance represents 2.1 cents per dollar of estimated plant in service.

The 8.4 percent increase in the operation and maintenance program from 1957 to 1958 is entirely related to the growth of our facilities. Generating capacity will be 12.5 percent greater in 1958 and the value of transmission plant in service will be 8.6 percent higher.

Costs

Costs and obligations for the operation and maintenance program are essentially the same.

Thank you.

PROGRAM TRENDS

Mr. RABAUT. All right, we will hear from you now.

Mr. PEARL. The chart "Program and appropriation statistics" that we have placed here indicates trends over the last 5 fiscal years of our budget, showing first our programs and then our appropriations.

CONSTRUCTION

You will notice that in 1954 our construction program totaled $33,988,099; 1955, $25,029,914; 1956, $23,977,782; 1957—that is the budget we are now on—$23,343,652.

Our program for 1958 on a basis comparable to 1957 and prior years is $24,717,000. To make this on a comparable basis the figure does not

include an item of $425,000 for civil-service retirement, which item is of course, due to a change in legislation, and is now paid from Bonneville funds.

The increase in our construction program is $1,373,348, before the additional increase of $425,000 necessary to provide for civil-service retirement costs.

OPERATION AND MAINTENANCE

To go to the other part of our budget, "Operation and maintenance," you will notice that in 1954 our program was $5,938,609; in 1955, $6,216,869; 1956, $6,771,827; 1957, $7,595,000; and our request for 1958 is $8,630,000.

Actually, to put them on a comparable basis I should have read the $8,265,000 for 1958, for here again $365,000 of our total requirement is for civil-service retirement. On a basis comparable to 1957, that is, before retirement costs, we have an increase in our requested program of $670,000.

I do not believe it will be necessary to discuss in detail our reimbursements program, which totals $489,000 in 1958. This is a relatively small item.

The thing I would like to stress about our programs is this: Our requests for funds as compared with our programs indicate a much greater increase in appropriation requirements than in programs. I would like to indicate here why we have an increased request for construction and also an increased request for operation and maintenance.

The upward trend in loads in our area is very material, which means an increase in our construction activity, an increase in our building of transmission facilities. Also, wheeling of non-Federal power has added a small amount to our construction activity. These two factors explain the increase in our construction program.

A third item is carryover, which affects appropriation requirements but not program. I will show you a chart in a minute that will explain why we feel positive we will not have any appreciable carryover into 1958. We did have in 1957, which accounted for our low request for additional funds for that year. Of the $6,442,000 increase we are asking for in construction funds, $4,643,652 is accounted for by lack of carryover. An additional $425,000 is the result of financing civil-service retirement costs. Only the remaining $1,373,348 represents an increase in program level.

In reality, the lack of carryover is the big item that causes our request to be as much greater in 1958 as it is compared with 1957.

Each year since I have been with Bonneville I have said to you that our construction program will remain about constant for the next 4 or 5 years. Basically that is because the new generation that is coming on is about the same each year. I am talking about Federal generation. But operation and maintenance will go up each year because our physical plant has increased.

While it would look as though we are asking for $1,035,000 increase in operation and maintenance, actually $365,000 of that increase is due to the civil-service retirement cost item. So, on a comparable basis we are actually only asking for $670,000 more for operation and maintenance.

Would you like to have me go through or would you like to have questions as I go?

Mr. RABAUT. Go ahead and finish.

Mr. PEARL. I said a minute ago that our generation that is coming on, Federal generation, is about constant for a number of years. You will notice here (referring to chart Peak generating capacity additions) that in 1958 the increased generation, Federal generation, will be about 664,500 kilowatts, a little over a half million; in 1959, 506,000, again a little over a half million kilowatts; in 1960, 358,800, a little under; in 1961, 208,200.

Now in connection with the wheeling that we are doing, Priest Rapids being the large project and Rocky Reach another. The generation that will come on our lines as a result of wheeling will bring these figures up until here again you can see that roughly there will be a half million kilowatts for Bonneville to carry to load centers each year for the next 5 years. The total to be added each year including wheeling, is: 1958, 784,500 kilowatts; 1959, 506,000 kilowatts; 1960, 518,800 kilowatts; and 1961, 521,100 kilowatts.

INCREASE IN MATERIAL AND CONSTRUCTION COSTS

One item in our amended budget that we feel we should explain is our increased costs. As of July 1956, using that estimate as 100 percent, you can see referring to chart actual construction and material contract awards compared with Budget estimates, July 1, 1956, to March 31, 1957, what has happened in the short period of time to March 31, 1957. The items that have a red crosshatched section are the items in which there has been an increase in cost. Generally speaking, these are our largest cost materials and construction bids.

The first item on the chart, transmission line surveys, is contracted surveying. That has not increased.

But our transmission-line construction bids have been running about 15.7 percent higher. Crossarms—that is a piece of transmission-line equipment we use a great many of—have increased about 12.5 percent; poles, 9 percent; tower steel, 21.1 percent. You all realize the price of steel has gone up.

In our substation bids we have a similar condition. In the design work we contract there has not been material change. But in construction the bids are running higher, 4.9 percent. In switches, structural steel, transformers, again the bids are running higher, by 1.1, 26.7, and 4 percent, respectively. So when we look at the overall picture today, construction and material bids for all items are costing us about 5.2 percent more than they did a year ago. That is a trend.

You will recall a year or 2 years ago we were going through what we called the "white-linen" sale when bids were very low for a number of reasons. That period has passed.

A minute ago I said to you we do not predict we will have a carryover this year. The curves on our chart [referring to chart utilization of construction appropriations] show obligations at the end of each month for each of the fiscal years 1955, 1956, and 1957 to date, as a percentage of total avaliable funds. As of the end of March in 1955, we had obligated about 38 percent of our funds. As of our 1956 budget at the end of March, we have obligated about 53 percent of our funds. This year at the end of March we had obligated over 72 percent of our

funds. The total balance of our funds available this year is scheduled in accordance with the indication here in the dotted red line indicating estimated obligations of 85 percent of total funds by the end of April, 95 percent by the end of May, and the balance by the end of June.

In other words, we had carryover in previous years, but this year as of right now we are on schedule. So this year we cannot have much of a carryover. In other words, we have been able to organize our work, maintain our schedules, and, in fact, had to adjust our program to stay within available funds. There will not be a carryover as we see it now. Of course, there could not be much of a carryover because we are up here so near the end of the fiscal year.

OPERATION AND MAINTENANCE

Now we will go to the increase in operation and maintenance. Our physical plant, operating and maintaining it as it grows—and it grows in accordance with our construction program—naturally will require the bulk of the money we ask for to operate and maintain the system.

You will notice here [indicating chart, Operation and Maintenance Program Summary] that of the request of $7,563,000 for the activity "System operation and maintenance," 2 large items comprise the bulk of the total. The first, for system operation, $2,744,700 is for actual operation of the system. The second is for actual maintenance of the system, which will require $4,016,200.

The other items in this activity are small, and there is very little increase.

Our second activity we call "Power contracts and rates." There is no increase in our request this year at all for this activity. For our third activity, "General administration," actually we are asking for 9 percent more, but as you will notice in the footnote [referring to the previously mentioned chart] the bulk of that increase is due to a change in the percentage distribution of costs of general administration between the construction and the operation and maintenance programs and not to increase in staff or any other similar factor. It is an accounting change.

Of the actual total increase that we are asking for, we might say that the large percent of it is in what we call the blue-collar activities, that is, actually operating and maintaining the system.

Our physical plant is what determines our operation and maintenance budget. We have been each year giving you sufficient information regarding the physical plant to indicate why the operation and maintenance increases each year. The main items we have listed [referring to chart operating statistics]. Substations: This year we have 178 to operate and maintain, next year we will have 185. Our transformer capacity will have increased 20.8 percent. Our transmission lines will have increased 2.1 percent, from 6,730 miles of high-voltage line to 6,873 miles of high-voltage line.

Energy sales: This year we expect to sell 28,800,000,000 kilowatt-hours. Our estimate is that our sales for 1958 will be 31,600 million kilowatt-hours. Our revenue this year we estimate will be $67,500,000. We estimate our revenue next year will be $74,400,000.

The Federal generating capacity we are now carrying to load centers is 4,829,300 kilowatts. Next year it will be 5,431,900. That

is an increase of 12½ percent. That gives an idea of the size of the physical plant and growth during the year.

Last year—in requesting the budget we are now operating on—we asked you to approve permanent positions in the amount of 2,233 (referring to chart Staffing Increases, fiscal year 1957 to fiscal year 1958). During the year, by the route of economy procedures, we have been able to reduce that 8, to 2,225. So, actually, this year when we ask you to approve 2,262 for fiscal year 1958 we are adding the number of requested new positions to the 2,225 rather than to the higher approved number.

In the statement I made a minute ago I told you our increases, generally speaking, are in the operation and maintenance of our physical plant. In operations we will need 20 more men. These will be permanent positions. In maintenance we will need 6 more. These total 26. There are few others: Engineers, 2; engineering aids, 2; and clerical, 7. So we are asking approval for 37 more permanent positions, of which 26 will be blue collar workers.

When we add the 37 to our reduced 1957 operating base, it adds up to 2,262 positions that we are asking you to approve for fiscal year 1958.

Mr. RABAUT. I want to compliment you for your presentation and the manner in which you presented it and the knowledge you have of it as exemplified before the committee.

RATE STRUCTURE

Last year reference was made to the Ford, Bacon, and Davis study of your rate structure and in the hearings this year there have been several references to the need for rate increases. Please bring us up to date on these matters.

Mr. PEARL. Periodically, in accordance with the Bonneville Act, we are to review our rate structure—that is, not less often than once every 5 years. Actually, we review it every year. Our studies this year indicate we do not need an increase in rates. About 2 weeks ago we announced there would not be an increase in rates for the year beginning December 1957. That is to say, there will not be an increase before December 1958.

There are two main reasons for that. One is reduced costs. The estimates that we were using in figuring our rates, primarily on The Dalles, also on Chief Joseph, have been very materially reduced.

No. 2, we have had good water conditions and our sales of interruptible power have been high. About 20 percent of our revenue this year will be from the sale of interruptible power.

As a result of that, we think we will come out with a net of between 5 and 6 million this year and based on our estimate, we think we will have a net next year of about 5 million.

Mr. ANDERSEN. Off the record.

(Discussion off the record.)

JOINT LOAD RESOURCE AND ENGINEERING STUDIES

Mr. RABAUT. With respect to the joint load resource and engineering studies referred to on page BP–7, what portion of the cost is financed by the Bonneville and what portion by the non-Federal interests involved?

Mr. PEARL. I do not know.

Mr. CONKLING. I do not have specific figures, but I would say a rather appreciable portion of the costs of additional transmission to accommodate the new generation will be borne by the non-Federal utilities.

Obviously, the non-Federal utilities are bearing the total cost of the new generating capacity that is coming in on a non-Federal basis.

Mr. RABAUT. Insert a tabulation showing the total cost of any such joint study undertaken in the last 2 fiscal years, the cost to the Federal Government and to the non-Federal participants. In each case indicate at whose proposal the study was undertaken and who is financing the structures shown to be required by the study.

(The matter referred to follows:)

Costs of joint system studies for fiscal years 1956 and 1957 on cooperative basis

Title of study	Total cost (estimated)	Cost to Federal Government (estimated) [1]	Cost to non-Federal participants (estimated) [2]	Who proposed study	Total cost estimates of structures required in connection with studies [3]	
					Federal transmission	Non-Federal transmission
Fiscal year 1956:						
1. Pacific Northwest Power Co. transmission study for 1965 and 1975.	$14,840	$840	$14,000	Non-Federal	----------	$60,000,000
2. Southwest Oregon load flow	4,700	4,000	700	Federal	(4)	(4)
3. Major transmission lines into Puget Sound area.	6,300	4,200	2,100	do	$9,100,000	35,500,000
4. Portland area load flow	8,400	4,200	4,200	do	8,500,000	10,650,000
5. Northeast Washington systems.	4,550	350	4,200	Non-Federal	(4)	(4)
6. Priest Rapids system stability study.	4,970	3,990	980	Joint decision	(4)	(4)
Total, fiscal year 1956	43,760	17,580	26,180	----------	----------	----------
Fiscal year 1957:						
7. Fiscal year 1958 budget study	38,460	31,460	7,000	Federal	45,000,000	123,500,000
8. Southwest Oregon load flow	7,230	3,835	3,395	Non-Federal	(4)	(4)
9. Service to Eugene area	7,100	3,950	3,150	Federal	8,200,000	3,200,000
10. Lewis River additions	1,400	700	700	do	3,500,000	4,500,000
11. Service to Eugene area	4,200	1,400	2,800	Non-Federal	8,200,000	3,200,000
12. Rocky Reach system load flows.	25,760	17,010	8,750	Joint decision	12,100,000	39,000,000
13. Portland area study	4,200	2,100	2,100	Federal	16,500,000	88,600,000
Total, fiscal year 1957	88,350	50,455	27,895	----------	----------	----------

[1] Cost of these studies to the Federal Government cannot be determined accurately since BPA accounting records do not disclose sufficient detail relating to such costs. Estimates of time spent on the various studies have been made on the basis of employee recollections and experience. The Federal costs were calculated on the basis of total man-months utilized on the studies at $700 per man-month. Cost of use of the BPA A. C. analyzer, exclusive of operators, is estimated at: ½ analyzer, $150 per day; full analyzer, $250 per day.

[2] BPA does not have available the costs incurred by the non-Federal participants in performance of these studies. However, in order to attempt a response to this question, we have estimated the non-Federal man-months of participation at $700 per man-month. Where a private A. C. analyzer was rented, its cost was estimated at $400 per day, with operators. Non-Federal utilities, as a normal practice, hire utility consultant firms. The amounts spent for such service are not known to BPA and therefore not included in the estimates.

[3] The transmission cost requirements of each participant in these joint studies have been estimated. Each study used different assumptions, depending on the type of problem which needed to be resolved. Therefore, many of the transmission requirements are common to the various studies. Also, all of these facilities will not necessarily be constructed.

[4] Operating study.

NOTE.—In addition to these joint cooperative studies, most of the non-Federal utilities perform many independent studies of both their individual systems and the northwest power pool. Results of these studies are normally made available to BPA.

Costs of providing new non-Federal generation such as the Rocky Reach, Priest Rapids, Mountain Sheep, and Pleasant Valley projects, etc., have not been included as part of the facilities which are to be built by the participating utilities.

COSTS OF JOINT STUDIES FOR CUSTOMER SERVICE ITEMS

All customer service items are proposed by the customers.

During fiscal year 1956 and fiscal year 1957 the Bonneville Power Administration made 11 such studies in cooperation with the customers. The following table summarizes the study cost and investment estimates related to the 11 items.

Costs of joint customer service studies for fiscal year 1956 and fiscal year 1957:	
Federal cost (estimated)	$2,000
Non-Federal cost (estimated)	2,000
Total costs (estimated)	4,000
Total cost estimates of facilities required resulting from the study:	
Federal facilities	2,746,000
Non-Federal facilities [1]	22,500,000

[1] BPA does not have complete information about the non-Federal costs of facilities they must provide for their system, including distribution; however, we have estimated their probable investment costs at $200 per kilowatt of demand for distribution lines, transformers, line drops, and metering.

NUMBER OF EMPLOYEES ON JOINT SYSTEM STUDIES

Mr. RABAUT. How many Bonneville employees are involved in this activity and what in your budget estimate is the amount for it? You may supply that.

(The matter referred to follows:)

The number of employees utilized and time spent on the specific studies outlined in the previous response, varies with the scope of the work to be performed. One the basis of footnote 1, table entitled "Costs of Joint system studies", the following employee participation and cost is estimated:

Study No.	Number of Federal employees participating	Man-months of participation	Amount
Fiscal year 1956:			
1	2	1.2	$840
2	4	2.5	1,750
3	4	6.0	4,200
4	2	6.0	4,200
5	1	.5	350
6	4	2.7	1,890
Total, fiscal year 1956			13,230
Fiscal year 1957:			
7	9	22.8	15,960
8	4	4.0	2,800
9	5	3.5	2,450
10	2	1.0	700
11	2	2.0	1,400
12	9	16.8	11,760
13	3	3.0	2,100
Total, fiscal year 1957			37,170

With reference to the statement on "Costs of joint studies for customer service items," the following employee participation and cost is estimated for the 2 fiscal years, 1956 and 1957:

Number of Federal employees	6
Man-months of participation	2.9
Amount in dollars	$2,000

CONSTRUCTION

Program and financing

	Costs					Analysis of 1958 financing			
	Total estimate	To June 30, 1955	1956 actual	1957 estimate	1958 estimate	Deduct selected resources and unobligated balance, start of year	Add selected resources and unobligated balance, end of year	Appropriation required for 1958	Appropriation required to complete
Program by activities:									
1. Construction in progress	$136,020,807	$47,604,400	$27,757,883	$26,011,524	$24,777,000	$18,137,000	$7,281,000	$13,921,000	$2,589,000
2. New construction	43,560,000				3,114,000	1,722,000	9,242,000	10,634,000	31,204,000
3. General plant	1,544,185		331,185	550,000	587,000	76,000	76,000	587,000	
Total program costs	181,124,992	47,604,400	28,089,068	26,561,524	28,478,000	19,935,000	16,599,000	25,142,000	33,793,000
4. Relation of costs to obligations: (*a*) Costs financed from obligations of other years, net (−)			−4,111,286	−3,217,872	−3,336,000				
Total program (obligations)			23,977,782	23,343,652	25,142,000				
Financing:									
Unobligated balance brought forward			−14,021,434	−4,643,652					
Unobligated balance carried forward			4,643,652						
Appropriation			14,600,000	18,700,000	25,142,000				

Relation of costs to obligations

	1955 actual	1956 actual	1957 estimate	1958 estimate
Selected resources at end of year:				
Inventories and items on order:				
Stores (goods unconsumed by projects):				
Warehouse stock	$6,715,409	$5,579,646	$5,200,000	$5,000,000
Project storage yards	3,705,383	3,264,500	3,200,000	2,500,000
Undelivered orders (appropriation balances obligated for goods and services on order not yet delivered)	16,593,710	14,122,001	11,500,000	9,069,000
Deferred items (net charges not assigned to specific projects)	249,656	186,725	35,000	30,000
Total selected resources at end of year	27,264,158	23,152,872	19,935,000	16,599,000
Selected resources at start of year (−)		27,264,158	23,152,872	19,935,000
(a) Costs financed from obligations of other years, net (−)		−4,111,286	−3,217,872	−3,336,000

Obligations by objects

Object classification	In budget	Revised estimate	Difference
Total number of permanent positions	1,196	1,196	
Full-time equivalent of all other positions	31	31	
Average number of all employees	1,215	1,215	
Number of employees at end of year	1,230	1,230	
01 Personal services:			
Permanent positions	$6,875,500	$6,875,500	
Positions other than permanent	174,400	174,400	
Regular pay above 52-week base	21,000	21,000	
Payment above basic rates	151,500	151,500	
Excess of annual leave earned over leave taken			
Total, personal services	7,222,400	7,222,400	
02 Travel	762,800	762,800	
03 Transportation of things	261,000	261,000	
04 Communication services	95,400	95,400	
05 Rents and utility services	76,900	76,900	
06 Printing and reproduction	7,300	7,300	
07 Other contractual services	435,000	515,000	+$80,000
08 Supplies and materials	7,245,500	4,003,400	−3,242,000
09 Equipment	9,110,500	6,791,500	−2,319,000
10 Lands and structures	6,028,100	5,851,100	−177,000
11 Grants, subsidies, and contributions	6,800	6,800	
Contributions to retirement fund	425,000	425,000	
13 Refunds, awards, and indemnities	20,900	20,900	
Subtotal	31,697,500	26,039,500	−5,658,000
Less services performed for—			
Operation and maintenance	−830,500	−830,500	
Other accounts	−67,000	−67,000	
Total obligations	30,800,000	25,142,000	−5,658,000

Average salaries and grades	Actual, 1956	Estimate, 1957	Estimate, 1958
Average salaries and grades:			
General schedule grades:			
Average salary	$5,685	$5,817	$5,875
Average grade	GS–7.9	GS–8.0	GS–8.0
Ungraded positions: Average salary	$5,724	$5,701	$5,703

Mr. RABAUT. We will take up "Construction" and insert pages 20 and 22 to 29 in the record.

(The matter referred to follows:)

ANALYSIS OF ADJUSTED APPROPRIATION

Construction

	Total available 1957 (1)	Increase in base due to Government's contribution to the retirement fund (2)	Adjusted appropriation (3)
1. Construction in progress	$9,896,000	$369,000	$10,265,000
2. New construction	8,383,000	48,000	8,431,000
3. General plant	421,000	8,000	429,000
Total	18,700,000	425,000	19,125,000

Analysis by activities

Activities	Adjusted appropriation	Decreases	Base 1958	Estimate 1958	Increases	Page reference	
						Table	Justification
1. Construction in progress	$10,265,000		$10,265,000	$13,921,000	$3,656,000	BP23	BP26
2. New construction	8,431,000		8,431,000	10,634,000	2,203,000	BP23	BP26
3. General plant	429,000		429,000	587,000	158,000	BP25	BP26
Total	19,125,000		19,125,000	25,142,000	6,017,000		

EXPLANATION OF RELATIONSHIP OF PROGRAM COST TO OBLIGATIONS

This is the first year that the amounts shown in the President's budget for activities to be carried out under appropriations to the Bonneville Power Administration are reflected on a cost basis. In past years these amounts have been reflected on an obligation basis. To readily identify the difference between the two approaches the two terms are defined:

Obligations represent goods and service ordered without regard to when delivered, paid for, or used.

Costs represent the amount of goods and services used regardless of when ordered, delivered, or paid.

Obligations incurred become a commitment against available funds and serve as a basis of fund control to avoid violation of the Antideficiency Act, whereas costs reflect a measurement of physical accomplishment by showing (without regard to whether payment has been made) the amount of personal services, supplies, equipment use, etc., that has been applied to a given job.

The program and performance statements in the President's budget show the total program costs with a line item adjustment to arrive at obligations. This line item adjustment normally entitled "Increase or decrease in selected resources" applies to the net increases or decreases between year-end balances in stores inventory, advance payments, undelivered orders and similar items.

A net incerase in the year-end balances of these resources will result in obligations incurred being larger than costs. This is true because current year obligational authority has been used to acquire inventories or other resources to be costed in future years. On the other hand, a net decrease in the year-end balances of these resources will result in costs being larger than obligations incurred. This is true, because the resources which have been included in costs for the current year were actually obligated against funds available in prior years.

1958 construction program summary

Item No.	Facility	Estimated cost	Obligations to June 30, 1955	Obligations, fiscal year 1956	Obligations, fiscal year 1957	Obligations, fiscal year 1958				Obligations required to complete	Page reference
						Construction in progress	New construction	General plant	Total		
100	Major grid:										
108	Chief Joseph-Snohomish No. 3 and Chief Joseph-Covington No. 1.	$25,211,000	$18,563,000	$3,353,000	$2,698,000	$572,000			$572,000	$25,000	BP30.
109	Lower Olympic Peninsula service	4,494,000	2,611,000	1,035,000	621,000	216,000			216,000	11,000	BP31.
113	Snohomish substation and line additions.	1,977,000	666,000	362,000	231,000	679,000			679,000	39,000	BP32.
116	The Dalles area service	6,743,000	2,096,000	2,258,000	1,241,000	817,000			817,000	331,000	BP33.
118	McNary-Ross	13,741,000	12,133,000	1,446,000	162,000						
119	Southeast Portland area service	16,266,000	14,824,000	931,000	428,000	75,000			75,000	8,000	BP37.
122	Ross-St. Johns-Keeler	3,520,000	1,875,000	1,160,000	485,000						
124	Snohomish-Sedro Woolley area service	208,000					$60,000		60,000	148,000	BP37.
125	Oregon City-Chemawa	1,545,000	55,000	690,000	643,000	154,000			154,000	3,000	BP38.
129	Round Butte-Redmond	898,000		52,000	413,000	433,000			433,000		BP41.
131	Santiam-Alvey No. 2	3,597,000		103,000	1,324,000	1,771,000			1,771,000	399,000	BP42.
132	Coos Bay area service	2,705,000	1,541,000	702,000	226,000	119,000			119,000	117,000	BP43.
134	Alvey-Reston	5,471,000	313,000	2,831,000	1,706,000	621,000			621,000		BP43.
136	McNary-Franklin	1,998,000	1,017,000	407,000	483,000	91,000			91,000		BP45.
138	Sand Dunes-Neppel	618,000					204,000		204,000	414,000	BP45.
139	Eastern Grant County service	2,390,000	3,000	74,000	1,053,000	1,189,000			1,189,000	71,000	BP46.
140	Columbia-Quincy No. 2	401,000					64,000		64,000	337,000	BP47.
142	Columbia substation additions	1,477,000	975,000	245,000	257,000						
143	Spokane area service	1,456,000	1,078,000	226,000	152,000						
144	Columbia series capacitors	963,000			617,000	289,000			289,000	57,000	BP48.
150	System reactive facilities	6,054,000	855,000	345,000	934,000	375,000	2,052,000		2,427,000	1,493,000	BP49.
151	Main system neutral boosters	452,000	211,000	28,000	85,000		81,000		81,000	47,000	BP50.
162	Franklin-Walla Walla	4,250,000	524,000				484,000		484,000	3,242,000	BP51.
171	Rocky Ford-Tacoma	8,594,000					1,863,000		1,863,000	6,731,000	BP53.
175	Cougar-Eugene	2,120,000					777,000		777,000	1,343,000	BP54A Rev.
178	Covington transformer replacement	1,215,000					862,000		862,000	353,000	BP55.
180	Chief Joseph-Valley	14,910,000					296,000		296,000	14,614,000	BP55.
	Subtotal	133,274,000	59,340,000	16,248,000	13,759,000	7,401,000	6,743,000		14,144,000	29,783,000	
200	Seattle area:										
204	Upper Olympic Peninsula service	2,430,000	100,000	278,000	916,000	895,000			895,000	241,000	BP57.
209	Olympia-Aberdeen No. 2	1,517,000	53,000	255,000	498,000	573,000			573,000	138,000	BP58.
212	South Bend area service	328,000	13,000				222,000		222,000	93,000	BP59.
215	Lewis County service	1,635,000	509,000	597,000	204,000	282,000			282,000	43,000	BP60.
218	Ilwaco-Long Beach area service	867,000	267,000	487,000	113,000						
219	Raymond-Aberdeen	1,167,000	1,124,000		43,000						

1958 construction program summary—Continued

Item No.	Facility	Estimated cost	Obligations to June 30, 1955	Obligations, fiscal year 1956	Obligations, fiscal year 1957	Obligations, fiscal year 1958				Obligations required to complete	Page reference
						Construction in progress	New construction	General plant	Total		
	Seattle area—Continued										
220	Larson substation	$252,000	$8,000		$130,000	$114,000			$114,000		BP61.
223	Moses Lake service	237,000	98,000	$84,000	55,000						
227	Frenchman Hills area service	497,000	125,000	134,000	238,000						
239	Warden substation additions	58,000		37,000	21,000						
240	Nilles Corner substation	78,000	17,000		61,000						
241	Ephrata service	267,000		12,000	160,000	95,000			95,000		BP62.
243	Southwestern Grant County service	312,000					$171,000		171,000	$141,000	BP63.
299	Other transmission facilities	697,000	103,000	110,000	229,000	32,000	183,000		215,000	40,000	BP65.
	Subtotal	10,342,000	2,417,000	1,994,000	2,668,000	1,991,000	576,000		2,567,000	696,000	
300	Portland area:										
303	Longview substation additions	975,000	444,000	165,000	366,000						
312	Longview area service	921,000	849,000	24,000	48,000						
318	Keeler-Forest Grove No. 2	394,000		113,000	216,000	65,000			65,000		BP67.
325	Tillamook service	1,927,000	1,469,000	291,000	167,000						
329	Oregon City substation terminal	97,000		23,000	25,000	22,000			22,000	27,000	BP67.
334	Eugene-Reedsport area service	1,734,000	1,606,000	49,000	79,000						
349	Boyer-Tillamook conversion	645,000	130,000		313,000	202,000			202,000		BP68.
352	Reedsport sectionalizing circuit breaker	122,000	23,000		26,000	73,000			73,000		BP69.
354	Coos tap point	113,000	26,000		15,000	62,000			62,000	10,000	BP70.
355	Toledo area service	3,537,000	102,000	28,000	770,000	1,767,000			1,767,000	870,000	BP71.
371	Alvey terminal	125,000					125,000		125,000		BP72A Rev.
399	Other transmission facilities	1,231,000	163,000	140,000	465,000	188,000	239,000		427,000	36,000	BP72.
	Subtotal	11,821,000	4,812,000	833,000	2,490,000	2,379,000	364,000		2,743,000	943,000	
600	Spokane area—upper portion:										
619	Spokane Valley area service	322,000					180,000		180,000	142,000	BL77.
620	Eagle Lake area service	348,000					215,000		215,000	133,000	BP78.
627	Clarkston substation	97,000	17,000	6,000	74,000						
628	Bonners Ferry sectionalizing circuit breaker	69,000	18,000		51,000						
635	Columbia Falls-Trego	993,000	40,000	87,000	449,000	368,000			368,000	49,000	BP79.
699	Other transmission facilities	407,000	32,000	46,000	176,000	12,000	124,000		136,000	17,000	BP80.
	Subtotal	2,236,000	107,000	139,000	750,000	380,000	519,000		899,000	341,000	

700	Spokane area—lower portion:										
702	Grandview substation additions	245,000	108,000	23,000	114,000						
710	Franklin transformer replacement	187,000	113,000	51,000	23,000						
712	Grandview substation transformer replacement.	70,000		52,000	18,000						
713	Big Eddy-DeMoss	832,000	10,000	9,000	398,000	415,000			415,000		BP82.
715	Ringold transformer replacement	106,000	1,000	75,000	30,000						
716	Goldendale substation	287,000	90,000	4,000	51,000	142,000			142,000		BP82.
717	Hedges substation	223,000	8,000		128,000	69,000			69,000	18,000	BP83
718	McNary-Richland direct line completion	109,000			23,000	86,000			86,000		BP84
799	Other transmission facilities	587,000	113,000	142,000	177,000	37,000	104,000		141,000	14,000	BP85
	Subtotal	2,646,000	443,000	356,000	962,000	749,000	104,000		853,000	32,000	
800	General system facilities:										
810	General structures and improvements	1,263,000	27,000	350,000	339,000	194,000	266,000		460,000	87,000	BP86
820	Communications facilities	2,460,000	721,000	391,000	489,000	495,000	156,000		651,000	208,000	BP92
830	Tools and equipment	1,544,000		407,000	550,000			$587,000	587,000		BP96
840	Preliminary engineering studies	492,000		111,000	141,000		240,000		240,000		BP99
860	Portable emergency transformers	614,000	217,000	284,000	113,000						
871	Transformer additions	5,159,000	916,000	491,000	654,000	332,000	1,323,000		1,655,000	1,443,000	BP100.
880	Circuit breaker replacements	603,000					343,000		343,000	260,000	BP104.
	Subtotal	12,135,000	1,881,000	2,034,000	2,286,000	1,021,000	2,328,000	587,000	3,936,000	1,998,000	
	Miscellaneous cleanup work	429,000			429,000						
	Subtotal construction program	172,883,000	69,000,000	21,604,000	23,344,000	13,921,000	10,634,000	587,000	25,142,000	33,793,000	
	Fiscal year 1956 obligations chargeable to items terminated in fiscal year 1956 and therefore not in 1957 or 1958 program.			2,374,000							
	Total construction program		69,000,000	23,978,000	23,344,000	13,921,000	10,634,000	587,000	25,142,000	33,793,000	
	Utilization of carryover from prior fiscal years.		14,022,000	−9,378,000	−4,644,000						
	Appropriation or estimate		83,022,000	14,600,000	18,700,000	13,921,000	10,634,000	587,000	25,142,000	33,793,000	

JUSTIFICATION

Construction $25,142,000

The fiscal year 1958 construction program of $25,142,000 compares with a program of $23,344,000 in fiscal year 1957. Appropriation requirements in fiscal year 1958 are $25,142,000 compared with fiscal year 1957 appropriations of $18,700,000 and $4,644,000 carried over from fiscal year 1956.

This construction program of the Bonneville Power Administration provides not only for the additional main grid transmission capacity required to transmit the output of new Federal generators being placed in operation at Chief Joseph, the Dalles, and Roza Dams prior to January 1961, it also provides for additional capacity needed to wheel new non-Federal power supplies, in accordance with the comprehensive policy for water resources development, in order that the most economical transmission arrangements will prevail on a regional basis.

The Federal main grid now serving the Pacific Northwest can be readily amplified to form an integrated network serving the new non-Federal projects. Previous recent authorizations for additions to the main grid have provided outlets for the Cowlitz River project of the Tacoma City Light and the Pelton project of the Portland General Electric Co. New non-Federal projects underway are the Priest Rapids project of the Grant County Public Utility District, and the Rocky Reach project of the Chelan County Public Utility District.

The Federal main grid will, in addition to serving these new non-Federal projects, be able to perform under conditions of shifting loads, changing flows of power under seasonal and emergency operating conditions, and interchanges of power members of the power pool.

New construction in fiscal year 1958 is geared to the target date of January 1961 as from 3 to 3½ years are required for economical construction of the typical main grid transmission line. An exception to this is a line crossing the Cascade Range where snow and bad weather limit construction work to a few summer months. Four and one-half years is required for this project. The 1958 program also provides for facilities of lesser scope on shorter construction schedules reflecting current experience. Plans for all electrical facilities are related to projected load conditions and match generation schedules of the Bureau of Reclamation and the Corps of Engineers.

At the end of fiscal year 1956 there were 7,200 circuit miles of transmission lines in service. Work underway and new facilities proposed in this budget will add 1,100 miles of line. Thus by January 1961 the transmission system will encompass 8,300 circuit miles of transmission lines.

BASIS FOR COST ESTIMATES

Estimates for the fiscal year 1958 construction program were prepared using cost levels of the period January to July 1956. It is expected that material and labor costs will, in general, increase slightly over the next 18 months.

CUSTOMER SERVICE ITEMS

All proposed customer service budget items have been developed jointly by the staffs of the Bonneville Power Administration and its customers. These items, which have been shown to be needed by joint administration-customer studies, represent that part of the total new facilities which it is the administration's responsibility to provide under its customer service policy. Construction by customers of related new subtransmission and distribution facilities necessary to carry the power from administration points of delivery to ultimate consumers has been agreed upon and scheduled in conjunction with the joint studies. Energization dates proposed for administration facilities match these customer's schedules for construction of their own facilities.

Also, all proposed items exceed the administration's standards of minimum feasibility. That is, estimated cumulative revenues from the sale of power through the new facilities during the initial 10-year period of service are sufficient to cover total annual costs of the specific facilities and, in addition, to contribute to the costs of generation and main grid transmission.

Major grid

The major grid facilities included in the Administration's fiscal year 1958 construction request result from detailed engineering and analyzer board studies of the combined transmission systems of the region, made in cooperation with

the major electric utilities. Schedules of generator installations of the Corps of Engineers and the Bureau of Reclamation, as well as schedules for new non-Federal projects, the output of which will be integrated with the Federal generating system and wheeled in part over the Federal grid, form the generation base for these studies. Agreed-upon load estimates developed by or in cooperation with the utility distributors of the region, form the load base.

The proposed system additions provide an economical means by which the power flows may be carried by the Bonneville grid, operating integrated with the other systems of the Northwest power pool. These new transmission additions together with certain planned non-Federal system additions will represent the most efficient and reliable means of supplying the regional loads from the new Federal and non-Federal hydroelectric projects. The proposed new Federal transmission projects are based on the assumption that several non-Federal transmission projects will be completed within the budget period prior to January 1961. These projects include the following circuits: Priest Rapids-Midway, Midway-Yakima, Lewiston-Walla Walla, Pelton-Round Butte, and Big Eddy-Willamette Valley area. If these non-Federal transmission schedules are not effectively met, it will be necessary for the Administration to revise the transmission plans included in this budget program.

A total of 1,737,000 kilowatts of peaking capacity is scheduled to be added on the Federal system during the period covered by this proposed construction program. Of this total, 664,500 kilowatts will be added in fiscal year 1958, 506,000 kilowatts in fiscal year 1959, 358,800 kilowatts in fiscal year 1960, and 208,200 kilowatts in fiscal year 1961. This will bring the total peaking generating capacity on the Federal system at the end of fiscal year 1961 to 7,169,400 kilowatts. The transmission system is, of course, designed to utilize fully this total generating capacity under the planned method of operation.

In addition, 592,900 kilowatts of non-Federal generation for which wheeling is contemplated will be added during the period from July 1957 to July 1961; the projects are Pelton, Priest Rapids, and Mayfield.

To achieve this utilization, the Federal transmission system, broadly speaking, must meet two requirements: (1) There must be sufficient capacity to supply maximum yearly peak loads, which generally occur in the months of December or January, and (2) there must be sufficient capacity between each generating plant and the grid to utilize the full maximum capability of the plant.

The following table shows the maximum peaking capability of each generating plant on the system before and at the close of the budget period.

Peak generating capacity additions

[Thousands of kilowatts]

	End of fiscal year 1957	End of fiscal year 1961	Increase
Federal projects:			
Bonneville	570.0	570.0	
Grand Coulee	2,319.0	2,319.0	
Hungry Horse	328.0	328.0	
Detroit	115.0	115.0	
McNary	1,127.0	1,127.0	
Big Cliff	20.7	20.7	
Lookout Point	138.0	138.0	
Dexter	17.2	17.2	
Albeni Falls	49.0	49.0	
Chief Joseph	736.0	1,177.6	441.6
Chandler	12.0	12.0	
The Dalles		1,255.8	1,255.8
Roza		11.3	11.3
Cougar		28.8	28.8
Total, Federal projects	5,431.9	7,169.4	1,737.5
Non-Federal projects:			
Yale	133.0	133.0	
Box Canyon	69.0	69.0	
Pelton		120.0	120.0
Mayfield		160.0	160.0
Priest Rapids		312.9	312.9
Total, non-Federal projects	202.0	794.9	592.9
Grand total	5,633.9	7,964.3	2,330.4

BUDGET AMENDMENT

Mr. RABAUT. The budget amendment, House Document No. 162, provides for a total reduction of $8,566,000 through elimination of several facilities, but you are reprograming $2,908,000 of the reduction to increase a number of other items over the original budget estimate and to add one new facility.

If you had not had the good fortune to be able to eliminate the $8,566,000, how would you have taken care of the $2,908,000 increase?

Mr. PEARL. It would of necessity have been by requesting a supplemental.

Mr. RABAUT. Are these costs through a whole lot of little items here and there?

Mr. PEARL. Yes.

Mr. RABAUT. Would you submit a budget estimate for that kind of increase all over the lot?

Mr. PEARL. There are two large ones. One is the increase in costs which we accounted for on the chart. The other is the facility down by the Cougar project. The Cougar project is a Federal project. Bonneville has Budget Bureau approval to build a line to carry the power from Cougar to our grid. The Lane County Electric Cooperative in that area will be hooked to our line when the Cougar line is put in.

They cannot on the present facilities carry power to take care of their load. They have asked us to speed up one section of that line, which we already have Budget Bureau approval for. That accounts for about three-fourths of a million dollars of this. That one item is a speedup.

Mr. RABAUT. Normally you would make a request for this as a deficiency. You have minuses and pluses all over the lot here.

Mr. PEARL. I am just mentioning the two large items. There are a lot of small ones.

Mr. RABAUT. How much do the two large ones amount to and which are they?

Mr. PEARL. We will put the chart up (referring to chart "Fiscal Year 1957 Construction Program: Price and Program Increases and Required Adjustments").

Mr. RABAUT. You have a large item, 211.3; you have another one which is 110.7; then you have 2 in the minus, 137.7, and 217.1. Down below they are all very small.

Mr. PEARL. Mr. Conkling has made up the chart here. I will ask him to cover those.

Mr. RABAUT. All right. You do not need to cover them all. I am just showing the two large ones. I do not want to go into a lot of detail.

Mr. CONKLING. Yes, sir. I might say that when we encountered the very serious cost increases to which Dr. Pearl referred just a moment ago, we found it necessary to reexamine our entire program for the year to find out how we were coming out. In reexamining the program we tried to list the categories of changes under certain headings as we show on this chart. The first heading represents increases in contract prices.

Mr. RABAUT. But all your cost changes, all your increases here are not increases plus; there are some minus.

Mr. CONKLING. That is right.

Mr. RABAUT. They more or less wipe each other out, the big ones do.

Mr. CONKLING. Not quite, Mr. Chairman. The net result of the increases in prices is a total increase of $596,000. So that even though we have had minuses, the net effect of the minuses and the pluses together has given us a total increase of $596,000.

We have had an essential schedule speedup to meet a very critical customer requirement which amounted to an additional $137,000.

There have been what we call essential changes in features of approved items which have amounted to $249,000. I might illustrate what we mean by an essential feature. In our preliminary reconnaissance, for example, we may assume that guyed towers will be adequate over a certain area. If, when we make our detailed investigation, we find that we have to substitute self-supporting towers, we would consider that a new feature because it would be an additional cost element in our design. Items such as that have amounted to $249,000.

Timing adjustments as between the last part of 1956 and the early part of 1957 have amounted to a further 1957 increase of $474,000, sir.

Minor estimate revisions have netted out to an increase of $17,000.

In addition, we had hoped that during the course of fiscal year 1957 we would be able to reduce our requirements below the summation of our individual item estimates in the amount of $773,000. We had expected that we might be able to do this through lower prices, expecting at least a partial continuation of the white sale bargain price levels of the preceding year. We had expected that higher cost changes in features of approved items would be more than offset by feature eliminations. We had hoped for other general savings. Since none of these circumstances materialized, we have not realized this planned saving of $773,000.

The abovementioned factors total to price and program increases which had to be met in the amount of $2,246,000. This represented a serious problem. To meet this problem we had to make a number of adjustments. We deferred schedules in the amount of $847,000 and were able to plow back materials from the system in the amount of $106,000. The balance was provided by an increase in our carryover from 1956, $222,000 (which is the counterpart of the timing adjustments previously mentioned) and the effect of eliminating from our 1957 program the two construction-in-progress items which were deferred as part of the amendment recently submitted to you, $1,071,000. These adjustments brought us the required total of $2,246,000.

Mr. RABAUT. You have to face these problems every year in an enterprise as big as yours.

Mr. CONKLING. We figured the prices would be constant or would go down, and that trend has been reversed.

NEW CONSTRUCTION

Mr. RABAUT. A total of $10,634,000 is programed for new construction. Please briefly explain the need for the various items included in this program.

Mr. PEARL. I am going to ask Mr. Starr to just cover these items.

Mr. RABAUT. All right.

Mr. STARR. Mr. Chairman, I have here a brief summary statement covering the main-system new starts, and customer-service new starts.

Mr. RABAUT. How voluminous is it?

Mr. STARR. It is only five pages, which I could submit for the record.

Mr. RABAUT. Put that in the record.

Mr. STARR. All right.

(The matter referred to follows:)

SUMMARY STATEMENTS OF PRINCIPAL FISCAL YEAR 1958 MAIN-SYSTEM NEW STARTS

Snohomish-Sedro Woolley area service (item 124)

A 4-mile, 115-kilovolt line, with terminal facilities, is required from the Administration's Snohomish substation to one of Puget Sound Power & Light Co.'s Beverly Park-Sedro Woolley 115-kilovolt lines northwest of Snohomish to provide additional interconnection capacity with the company. These facilities are scheduled for energization in July 1959.

The company is now served over two 115-kilovolt lines between the Snohomish and Beverly Park substations. A third circuit is under construction from Snohomish to the company's Eastside substation. The combined capacity of these lines and the proposed new line will be needed to carry area loads in the fall of 1959.

Sand Dunes-Neppel (item 138)

This proposed facility, consisting of a switching station at Neppel and 9 miles of 115-kilovolt line to this station from Sand Dunes switching station, will tie together the Administration's 115-kilovolt lines to the north and south of the city of Moses Lake, Wash. The Grant County Public Utility District, the Bureau of Reclamation, and the Washington Water Power Co. will be served or interconnected by this proposed facility. Energization is scheduled for July 1959.

These new facilities will complete major transmission required for supply to the area.

Columbia-Quincy No. 2 (item 140)

This item provides for a second 14-mile, 115-kilovolt transmission line between the Columbia and Quincy substations, with terminal equipment, to supply the increased power requirements of the western part of Grant County. These facilities are required by May 1959.

The rapidly growing Columbia Basin irrigation project in Grant County is causing a marked stimulation of the economy of the area and a consequent increase in power demands. Load estimates for the summer of 1959 exceed the capacity of the existing Columbia-Quincy circuit.

Main-system neutral boosters (item 151)

It is necessary to install a booster transformer bank in the neutral of transformer bank No. 2 at Longview substation to permit raising the system operating voltage and also to supply the increased power requirements of the Reynolds Metals Co. Energization is scheduled for April 1959.

The booster bank will make it possible to raise the operating voltage of the 230-kilovolt grid and control the low-side voltage, with the result that transmission system losses will be reduced and capability increased. The installation will also increase the 230–13.8-kilovolt transformer capacity.

Franklin-Walla Walla (item 162)

A 230-kilovolt line approximately 36 miles long with two 230-kilovolt terminals is required from Franklin substation to Walla Walla substation, to provide additional capacity to meet the power needs of the Walla Walla-Lewiston area. This item also includes the installation of a 75,000/100,000-kilovolt-ampere, 230–115/69-kilovolt transformer at Walla Walla substation. The transformer to be used will be transferred from Covington substation. Energization of the line is scheduled for May 1960, and the Walla Walla transformer is tentatively scheduled for installation in the fall of 1961.

The proposed line is a part of a joint plan of the Administration and the Washington Water Power Co. for a 230-kilovolt circuit from Franklin to Lewis-

ton. The company will construct the portion between Walla Walla and Lewiston. The transformer at Walla Walla is needed for local loads.

Rocky Ford-Tacoma (item 171)

A 156-mile, 287-kilovolt transmission line with terminal facilities from Rocky Ford to Tacoma is required to accommodate changed power flows on the Federal grid resulting from Priest Rapids generation. This line is scheduled for energization in September 1960, for initial operation at 230 kilovolts.

The line will integrate the Priest Rapids hydroelectric plant of the Grant County Public Utility District with the Bonneville system, and will provide part of the additional capacity required for wheeling Priest Rapids power.

Cougar-Eugene (item 175)

A 16-mile, 115-kilovolt transmission line from Leaburg to the vicinity of Blue River, Oreg., is required for service to the Lane County Electric Cooperative. This line will be an intermediate section of the 45-mile Cougar-Alvey line, which is required to transmit the output of the Cougar hydroelectric generating plant into the Federal grid. Energization of this initial intermediate section is scheduled for not later than the fall of 1959, for temporary operation at lower voltage. Energization of the complete line at 115 kilovolts is scheduled for October 1960 to coincide with the commencement of operation of the Cougar plant. At that time, a 6,000-kilovolt-ampere, 115–12.5-kilovolt substation will be constructed in the vicinity of Cougar Dam to provide permanent service to the cooperative.

Covington transformer replacement (item 178)

This item covers the installation of a 150,000/200,000/250,000-kilovolt-ampere, 230/115-kilovolt autotransformer bank at Covington. This installation will release the two 75,000/100,000 230/115/69-kilovolt transformer banks presently installed there for transfer to Chehalis and Walla Walla substations. The schedule for installing the autotransformer bank is July 1959.

The two 75,000-kilovolt-ampere, 230–115/69-kilovolt transformer banks now in service at the Covington substation have characteristics suitable to provide the additional transformer capacity required at Chehalis and Walla Walla. An economic study shows that $150,000 in investment costs will be saved by the proposed plan (the purchase of a 150,000-kilovolt-ampere, 230/115-kilovolt autotransformer for Covington to release the 2 present banks for installation at Chehalis and Walla Walla), rather than purchasing new banks for Chehalis and Walla Walla.

Chief Joseph-Rocky Reach-Valley (item 180)

Planning and partial surveys are required in fiscal year 1958 for a major circuit from Chief Joseph, via Rocky Reach, to the Puget Sound area, to integrate the Government's Chief Joseph plant and the new Rocky Reach plant of the Chelan County Public Utility District and to accommodate the increased power flows to the Pudget Sound area which will occur by the fall of 1961.

This circuit will traverse rugged mountain terrain with difficult access, where the construction period is confined to a few summer months in the high elevations. Therefore, surveys in these areas must be started in fiscal year 1958 to construct this line economically.

The Administration is collaborating closely with the Chelan County Public Utility District and the Puget Sound Power & Light Co. with respect to the integration of the 700,000-kilowatt Rocky Reach hydroelectric generating plant. This plant is scheduled for initial operation in the fall of 1961. While the joint studies have not yet been completed and no decisions yet reached with respect to the precise nature of the facilities and ownership, it is agreed that planning and surveys must be accelerated in fiscal year 1958 in order to allow adequate time for the construction of the circuit.

If it is decided that this circuit or any section of it is to be constructed non-Federally, the Government will negotiate reimbursement of any expenditures which it has made for surveys.

South Bend area service (item 212)

This item provides for construction of 5 miles of 115-kilovolt line from the Raymond substation to the northeastern city limits of South Bend, Wash., and a 12,000-kilovolt-ampere, 115–12.5-kilovolt substation at South Bend (the Willapa River substation). These facilities will provide for the increasing power re-

quirements of the Pacific County Public Utility District, and are scheduled for energization in October 1958.

Southwestern Grant County service (item 243)

This item covers construction of 7 miles of 115-kilovolt line from a tap on the Administration's Burke-Royal line to approximately 13 miles south of Burke substation, and construction there of a 12,000-kilovolt-ampere, 115–13.8-kilovolt substation (the Jericho substation), which will serve the Grant County Public Utility District and the Bureau of Reclamation. These facilities are scheduled for energization in December 1958.

Power requirements in the area to be served by the proposed Jericho substation will increase rapidly within the next few years since this part of the Columbia Basin project is scheduled to have irrigation water available in 1959. The general activity associated with the Priest Rapids hydroelectric development of the Grant County Public Utility District will also contribute to load growth.

Royal substation terminal (item 299)

The construction of a 13.8-kilovolt feeder position in the Administration's Royal substation for service to the Bureau of Reclamation is covered in this item. Energization is scheduled for April 1959.

The Bureau will serve its Hope Valley and Low Gap pumping plants from Royal substation, which is scheduled for completion in March 1957, and will make a nonappropriation cost transfer to the Administration to cover construction of the proposed 13.8-kilovolt feeder position.

Alvey terminal (item 371)

A 115-kilovolt terminal position in the Administration's Alvey substation is required to serve the increasing power requirements of the city of Eugene's water and electric board. Energization is scheduled for September 1958.

The Eugene Water and Electric Board, which serves all the power requirements of the city of Eugene, presently receives power from the Administration from Eugene substation at 69 kilovolts. The proposed 115-kilovolt point of delivery at Alvey substation will take the place of additional transformation at the Administration's Eugene substation.

Spokane Valley area service (item 619)

This item provides for construction of a 4.5-mile, 115-kilovolt line from a tap on the Administration's Trentwood-Valley Way line to approximately 2 miles south of Veradale in the Spokane Valley, and at that location construction of a 12,000-kilovolt-ampere, 115–12.5 kilovolt substation, to be known as Vera substation, which will serve the Vera Irrigation District and the Inland Power & Light Co. Energization of these facilities is scheduled for December 1958.

Loads of the Vera Irrigation District and the Inland Power & Light Co. in the Spokane Valley area are served from the Administration's Valley Way substation and are increasing rapidly due to industrial and commercial expansion, together with residential growth.

Eagle Lake area service (item 620)

This service plan includes construction of the 6,000-kilovolt-ampere, 115–12.5-kilovolt Eagle Lake substation about 6 miles south of Othello, Wash., supplied by approximately 10 miles of new 115-kilovolt transmission line from the Administration's Scooteney substation. The new substation will serve the Big Bend Electric Cooperative and the Bureau of Reclamation. Energization is scheduled for May 1959.

The power requirements of the area to be served from the proposed substation, part of the Columbia Basin project, will increase rapidly because of additional land being brought under irrigation by the Bureau of Reclamation.

Transformer additions (item 871)

This item provides for additional transformer capacity in existing substations where loads will exceed the present capacities, as follows:

Substation	Capacity in kilovolt-amperes		Energization date
	Present	Planned	
Centralia	6,000	12,000	July 1958.
Chehalis	19,500	75,000	October 1959.
Ellensburg	10,000	22,000	June 1959.
Lone Pine	2,000	4,000	December 1958.
Soap Lake	6,000	12,000	August 1958.
Bandon	6,000	12,000	Do.
Cowlitz	37,500	75,000	May 1959.
Lebanon	3,000	6,000	Do.
Mapleton	6,000	18,000	July 1959.
Do		6,000	Do.
McMinnville	12,000	24,000	Do.
Mill Plain	24,000	32,000	Do.
Svenson	1,000	3,000	July 1958.
Wren	3,000	6,000	June 1959.
Highlands	12,000	32,000	September 1959.
Hood River	6,000	12,000	May 1959.
Pendleton	1,000	3,000	June 1958.
Riverview	12,000	24,000	June 1959.

A contingency in the amount of $100,000 is included to cover the additional transformers which invariably must be purchased or installed during each budget year, but for which the specific locations cannot be definitely established at the present time.

Mr. RABAUT. Please give the committee a summary.

Mr. STARR. The most important ones you would like to have summarized?

Mr. RABAUT. Yes.

Mr. STARR. We can refer to this map in going through them. I will pick out only those I consider to be of major importance at the present time and point them out to you.

COLUMBIA-QUINCY FACILITY

The Columbia-Quincy facility listed as item 140 is a transmission line, the second one from the Columbia substation down to the Quincy station. It will increase the capacity to that area to supply the rapid growth of load in this general Columbia Basin area.

FRANKLIN-WALLA WALLA LINE

Next is the Franklin-Walla Walla line item 162, a 230-kilovolt transmission line 36 miles long from Franklin Station near Pasco, Wash., to Walla Walla. This line will become part of a link to be completed by the Washington Water Power Co.

Mr. RABAUT. To what point?

Mr. STARR. Back into Spokane. McNary Dam, located here [indicating], is a major source of power. This will complete a loop into Spokane and also serve additional loads in the Walla Walla area.

ROCKY FORD-TACOMA LINE

The next very important one is the Rocky Ford-Tacoma transmission line, item 171, which will be constructed for eventual 287-kilovolt operation. It will utilize an existing circuit from Grand Coulee to Midway and operate as a tap on that line from Rocky Ford to the Tacoma area. This is needed because of the general increase in loads in the Puget Sound area and the development of additional resources in the lower Columbia area, which resources, including Priest Rapids,

will now serve the loads in that area and make available to the Puget Sound area more of the power developed at Grand Coulee and Chief Joseph.

We will need more transmission capacity over this way, that is, toward Puget Sound. You can then consider part of this Rocky Ford-Tacoma circuit to be associated with Priest Rapids power by displacement.

COUGAR-ALVEY LINE

Next is the Cougar-Alvey line, item 175. This is a 115-kilovolt transmission line from the Cougar Dam on the South Fork of the Mackenzie River to a station near Eugene, Oreg., where we will interconnect with the municipal system of the city of Eugene and from there to our Alvey station. We are requesting authority to build only a portion of it in this next budget from Blue River on the Mackenzie River to the Leaburg hydroplant of the city of Eugene to bolster the service to the Lane County cooperative in this upper Mackenzie area.

Mr. RABAUT. Most of this is detailed in your report; is it not?

Mr. STARR. Yes, sir; most of it.

CONTINGENCY

Mr. RABAUT. All right. What percent contingency is carried in your construction estimates?

Mr. PEARL. I would say none. We try to estimate what will be required.

Mr. RABAUT. You could not figure that close.

Mr. PEARL. I did not say our estimates are minimum. They represent what we think are average prices based on our experience.

Mr. RABAUT. You have to have some contingency in there.

Mr. PEARL. If you take an average based on your quotations over the past year, that gives you what——

Mr. RABAUT. You add a mile or two to a line, perhaps. Or do you measure it by the inch? You have to have a contingency. I am asking about what percent, would you say?

Mr. PEARL. Mr. Starr, of course, has charge of the construction.

Mr. RABAUT. All right.

Mr. STARR. There is a considerable difference, sir, between a contingency in an engineering project and an allowance for certain overrun such as this difference in the length of line conductor.

Mr. RABAUT. All we want to know is the allowance.

Mr. STARR. We do not allow anything, but we attempt to make the estimates close enough that when we consider all items in the program, the pluses and minuses cancel out quite well.

Mr. RABAUT. Do you have enough wire left over to tie a dog to a dog house?

Mr. STARR. Yes, but we need that in maintenance. If we had only one item for example a dam, a large hydrodam, I am sure we would have to include a reasonable sum for contingencies.

COST ESTIMATE VARIATIONS

Mr. RABAUT. There appear to be a number of radical changes in cost estimates on a number of items on the table on page PB–23 of the justifications as follows:

Item No. 108, last year, $28,642,000, the total cost shown this year now is the second figure each time, $25,211,000.

Item 119, $20,337,000, the second figure is $16,266,000.

Item 131, $2,986,000. The last figure now is $3,597,000.

Item 134, $4,027,000. The last figure is $5,471,000.

Item 150, $3,115,000. The last figure is $6,054,000.

It is difficult to understand how such large discrepancies could occur in your estimating of last year. What are the reasons for those changes?

Mr. PEARL. Mr. Conkling has the data on that. I will ask him to answer.

Mr. CONKLING. May I take item 108 first, sir?

The reduction in the total cost of $3,431,000 is due to the fact that we have dropped out of our construction-in-progress for this item, which encompassed 2 major circuits, one from Chief Joseph to Snohomish and at the other from Chief Joseph to Covington, the raising of the voltage of one of those circuits to 345 kilovolt operation. The reduction due to dropping the two autotransformers which would be required to take this 230-kilovolt line up to 345 kilovolts was $3,104,000. In addition to that, we have had a saving on a construction contract which was awarded in the latter part of fiscal year 1956 in the amount of $327,000. That brought the total reduction in the cost of the item to $3,431,000.

I might say in explanation that we have felt that when we are not going ahead with the full previously expressed intention on an item, such as our previously expressed intention to raise both Chief Joseph circuits to 345 kilovolt, we have felt it better practice to drop the eliminated feature out of our budget estimates so that it would not be shown as construction-in-progress. That means that we are going to be required, when we do find it necessary to raise that particular facility to 345 kilovolt, to come back and request your authorization for that as new construction. We felt that would be better practice.

Mr. RABAUT. Why did you not build the 345 in the first place?

Mr. CONKLING. The Chief Joseph-Snohomish line was built for 345-kilovolt operation, but the autotransformers, to change the line from 230 kilovolts to 345 kilovolts, are not needed right now, sir, and we felt we should defer that investment until such time as they are needed.

Mr. RABAUT. You are buying 2 transformers instead of 1 now?

Mr. CONKLING. No, sir. There are two circuits from Chief Joseph. We have the map before us [indicating]. Both circuits are constructed for 345-kilovolt operation, but only the Chief Joseph-Covington circuit will be operated at that voltage initially. The Chief Joseph Snohomish circuit will be operated at 230 kilovolts for some time in the future.

Mr. RABAUT. You are not putting in that for this last section?

Mr. CONKLING. We are not raising the operating voltage of Chief Joseph-Snohomish to 345 kilovolts.

Mr. RABAUT. Why?

Mr. CONKLING. It has not been necessary.

Mr. RABAUT. You are going to do it ultimately?

Mr. CONKLING. Yes, sir; but we felt we could do it even though we no longer show it as construction-in-progress in our budget. We felt

that it was better budget practice to drop it out of our budget estimates now and request reinstatement later.

Mr. RABAUT. Which is the cheapest?

Mr. CONKLING. It does not affect the cost at all.

Mr. RABAUT. I thought it affected the cost of the whole green line in here.

Mr. CONKLING. No, sir.

Did you want an explanation of the other items? They are all similar to that.

Mr. RABAUT. Supply the rest for record.

Mr. CONKLING. We will be glad to do that, sir.

(The matter referred to follows:)

ITEM 119, SOUTHEAST PORTLAND AREA SERVICE

From: $20,337,000 to $16,266,000.

Change: —$4,071,000.

The reduction in cost of this item is the result of (1) the indefinite deferral of plans for raising the voltage of the Big Eddy-Oregon City line from 230 to 287 kilovolts, thus permitting the deferral of the 230 to 287-kilovolt autotransformers; (2) the indefinite deferral of plans for the 150,000-kilovolt-ampere, 230/115-kilovolt transformer at Oregon City; and (3) savings on construction contracts awarded during fiscal year 1956. The need for items 1 and 2 cannot now be foreseen in the reasonably near future and hence are eliminated from the budget item.

The reductions in cost are sumarized as follows:

230 to 287-kilovolt autotransformers	$2,483,000
150,000-kilovolt-ampere, 230/115-kilovolt transformer	1,393,000
Savings on construction contracts	195,000
Total reduction in cost	4,071,000

ITEM 131, SANTIAM-ALVEY NO. 2

From: $2,986,000 to $3,597,000.

Change: +$611,000.

The increases in costs are (1) an increase in the prices of materials and an increase in the tonnage of tower steel; (2) an increase in the estimate for right-of-way clearing and line construction because of requirements for additional clearing of dangerous trees, additional protection of water supplies, and additional access roads; and (3) changes in the Alvey terminal to provide for future conversion to 287 kilovolts in order to avoid outages and temporary construction at the time of the conversion.

The foregoing increases in cost are summarized as follows:

Increase in prices of materials and tonnage of steel	$293,000
Increase in costs of right-of-way clearing and line construction	215,000
Changes in Alvey terminal	103,000
Total increases in cost	611,000

ITEM 134, ALVEY-RESTON

From: $4,027,000 to $5,471,000.

Change: +$1,444,000.

The major factors causing the increase in the cost of this item are (1) awards for right-of-way clearing and line construction contracts at greater amounts than estimated; (2) increases in costs of materials due primarily to the need for additional steel towers in rough terrain; and (3) the addition of a spare 230/115-kilovolt autotransformer at Fairview. Presently available portable spare transformers can be moved to Fairview only with very considerable difficulty and delay.

The increases in the cost of this budget item are summarized as follows:

Increase in cost of right-of-way clearing	$143,000
Increase in cost of line construction	300,000
Increase in cost of materials	430,000
Spare 230/115-kilovolt autotransformer	306,000
Miscellaneous increases	265,000
Total increase in cost	1,444,000

ITEM 150, SYSTEM REACTIVE FACILITIES

From: $3,115,000 to $6,054,000.
Change: +$2,939,000.

This item provides for the reactive capacity necessary on the system which varies with the amounts of generating capacity and transmission facility additions. The item is continuing, with annual programs which are carried in the item for the period during which they are under construction. Therefore, the total costs shown in the budget from year to year are not comparable.

Following is a comparison of the total costs of the programs carried in the 1957 and 1958 budgets:

	1957 budget		1958 budget	
	Capacity, kilovolt-amperes	Total cost	Capacity, kilovolt-amperes	Total cost
1954 new starts	105,000	$1,084,000		
1955 new starts	75,000	854,000	75,000	$819,000
1957 new starts	110,000	1,177,000	160,000	1,308,000
1958 new starts			325,000	3,927,000
Total, budget item 150	290,000	3,115,000	560,000	6,054,000

The decrease in cost of the 1955 new start program is the result of savings in installation costs at the Valhalla substation. The increase in cost of the 1957 new start program is due to the addition of reactive capacity to meet changing system operating conditions.

Mr. RABAUT. There is a lot of difference here in some of these.

Mr. CONKLING. Yes, sir.

COMPLETION FUNDS FOR SELECTED ITEMS

Mr. RABAUT. It is noted that you are showing a very small balance required to complete after 1958 for the following items: I will give you the number and then the amount: No. 108, $25,000; No. 109, $11,000; No. 113, $39,000; No. 119, $8,000; No. 125, $3,000; No. 215, $43,000; No. 354, $10,000; No. 717, $18,000.

In view of the fact that you are somewhat unsure of your estimating as has been already demonstrated and you are scheduling reasonable amounts for contingency, is it not probable that you will complete these items with the amounts requested in 1958?

Mr. CONKLING. Mr. Chairman, I think not. I will confess that this rather substantial increase in prices——

Mr. RABAUT. In your program, you are requesting much larger amounts and then, in addition, requesting these smaller amounts of $3,000, for example—let us go off the record.

(Discussion off the record.)

Mr. CONKLING. Actually, Mr. Chairman, balances to complete represent physical scheduling. We do have the processes in our con-

struction pretty much scheduled out and often there is cleanup work required even after a facility is placed in operation.

Mr. RABAUT. Here is a program of $25 million in the first item and you need $25,000 for it. Here is a $16,000 program and you need $8,000. You know that you could complete the whole thing with 1958 money. If you want to explain why you cannot complete a $25 million program because you need $25,000, put that in the record.

(The matter referred to follows:)

Bonneville Power Administration has followed the practice of attempting to match its future-year budget statements as precisely as possible to its schedules for physical performance of the several important phases of construction work. In many cases very important parts of the physical job may be relatively small in cost, and thus be shown separately as components to be performed beyond the budget period although the cost involved is small. Accordingly, to the extent possible, attempts are made to obtain full consistency between the budget forecasts as of any given time and the more important components of the physical work schedules as they stand as of that time. However, small balances to complete beyond the budget period are not requests for funds. Their most important purpose is to give the Congress an indication of the size of the physical work scheduled to be performed on each budget item after the close of the budget year, in this case fiscal year 1958.

The work scheduled for fiscal year 1959, as represented by the required-to-complete figures cited by the chairman, is as follows:

Item No.			
108.	Chemical treatment of portions of the rights-of-way of the Chief Joseph-Covington and Chief Joseph-Snohomish lines		$25,000
109.	Chemical treatment of right-of-way of the Olympia-Shelton line and installation of equipment for communication between the Olympia and Fairmount substations		11,000
113.	Completion of construction for Snohomish transformer, and 115-kilovolt line and terminal		39,000
119.	Completion of chemical treatment of right-of-way of sections of the big Eddy-Oregon City line		8,000
125.	Completion of chemical treatment of right-of-way of the Oregon City-Chemawa line		3,000
215.	Completion of construction of Silver Creek substation and line connections, Chehalis terminal	$31,000	
	Removal of portion of conductor from Chehalis-Mossyrock line	5,000	
	Chemical treatment of Chehalis-Silver Creek line right-of-way	7,000	
	Total		43,000
354.	Completion of construction of the Coquille terminal at Fairview substation		10,000
717.	Completion of construction of Hedges substation		18,000

MISCELLANEOUS CLEANUP PROGRAM

Mr. RABAUT. You are showing a miscellaneous cleanup program of $429,000 in the current fiscal year and I would like to know if this was shown in your program as presented to the committee last year. If not, why was it not shown? How is this catchall fund being created and what are you doing with it?

Mr. CONKLING. The largest part of that, Mr. Chairman (item 126), has to do with work associated with the two projects (items 126 and 128) which we dropped in accordance with the amendment to which you referred earlier.

Mr. RABAUT. You may expand that in the record.

(The matter referred to follows:)

May I explain in some detail, sir, to give you a complete picture.

For the budget year, in this case fiscal year 1958, we show separately as individual budget items all-important components of our construction program which require work—and therefore funds—during the year. In answering an earlier question concerning balances to complete beyond the budget year, I indicated that it was also our practice to match our estimates of appropriation requirements with our physical work schedules, even though this might result in a relatively small balance-to-complete estimate beyond the budget year. The purpose of this practice is to give the Congress as complete and detailed a picture as practicable of the program for which we are asking approval and funds. In other words, budget year data (fiscal year 1958) and balances to complete (later years) are the basis for the appropriation of funds, although, of course, funds are appropriated only for the work scheduled to be done in the budget year.

Other data in our budget serve the more generalized purpose of supplying background information, in more of less detail depending upon its significance to you in evaluating our budget year request. For example, we show prior year appropriations in detail for all items for which funds are required in the budget year. Thus a complete budgetary history of such items is presented. On the other hand, each operating year we complete a number of items—we feel we do not need appropriations for them in the ensuing budget year. These items—since they are part of a previously approved program and are not included in the program we are currently requesting—are dropped from the detailed item listing and are lumped together under the heading "Miscellaneous Cleanup Work." Each item so combined under this heading had previously been shown separately, of course. The purpose of this practice is simplicity—to limit the number of individual items shown in our budget to those requiring new appropriations. But at least the total of the combined items must be shown in order to permit you to compare the full current year program with the full requested budget year program.

At our presentation to you last year—our request for fiscal year 1957—we combined as miscellaneous cleanup work those items which were to be completed in fiscal year 1956 and which, therefore, played no part in our request for fiscal year 1957. These amounted to $233,000. Therefore, a similar item was presented to the committee last year.

In our presentation to you this year—our request for fiscal year 1958—we have in similar fashion combined as miscellaneous cleanup work those items which are to be completed in fiscal year 1957 and which, therefore, are not a part of our request for 1958 funds. These total to $429,000 as I will itemize. Each amount which is now lumped together was, of course, previously shown separately and approved. Possibly, Mr. Chairman, the term "miscellaneous cleanup work" is misleading. "Completion of previously approved budget items" might be a better term.

The $429,000 is itemized as follows:

Item No.	*Description*	*Obligations*
105.	Completion of construction, Olympia substation	$15,000
117.	Completion of installation, McNary 150,000-kilovolt-ampere transformer	17,000
123.	Completion of installation, Albany disconnect switches and microwave facilities	21,000
126.	Deferral beyond fiscal year 1958, Big Eddy-Keeler	188,000
137.	Completion of construction, Roundup and LaGrande substations	20,000
148.	Completion of Hot Springs communications additions	7,000
205.	Completion of construction, Snohomish County Public Utilities District terminal	11,000
224.	Completion of installation, Columbia substation microwave facilities	7,000
332.	Completion of construction, Toledo communications facilities	3,000
341.	Installation of Alvey standby plant	10,000
701.	Completion of construction, Midway substation additions	4,000
(1)	General land cleanup	26,000
(1)	Completion of a number of small items	19,000
	Overhead expenses applicable to above items and to other items for which obligations have been completed but expenditures still pending	81,000
	Total	429,000

[1] Various items.

Mr. RABAUT. You have the small amounts and now you ask for $429,000. You do not need $429,000 at all, do you?

Let us go off the record.

(Discussion off the record.)

Mr. CONKLING. $429,000 is really a balancing figure that we wanted to present to you to show the comparison between our full program this year and last.

Actually, I think, Mr. Chairman, our requirements for fiscal year 1958 are summed up pretty well by budget items. If these pluses and minuses do not materialize, then we are in trouble. If the minuses exceed the pluses, we have a little carryover. If the reverse is true, we might have to request additional funds or defer some projects.

Mr. RABAUT. How much of the funds requested in 1958 will be put into the catchall fund category?

Mr. CONKLING. None, sir.

OTHER TRANSMISSION FACILITIES

Mr. RABAUT. You are programing for 1958 a total of $919,000 or almost $1 million, for something called "Other transmission facilities."

Mr. RABAUT. Is this kind of additional contingency or what is that now?

Mr. CONKLING. I believe that represents what we call our 99 items, Mr. Chairman. I think they are pretty well defined in our budget document.

Mr. RABAUT. This is what it says:

Other new work, other types of work proposed for fiscal year 1958, include replacement of batteries, installation of aviation warning lights, mobile transformer connections, capacitors, transformers, disconnecting switches, vibration protection,

and so forth. That is going to cost almost $1 million.

Mr. CONKLING. Yes, sir.

Mr. RABAUT. Do you want to break this all down for the record?

Mr. CONKLING. I would be very happy to do so, Mr. Chairman.

(The matter referred to follows:)

OTHER TRANSMISSION FACILITIES

(Items 299, 399, 699, 799)

"Other transmission facilities" budget items cover the large number of small system changes and additions which are part and parcel of electric grid operations. Although individual components are small in cost, they are important to adequate service. Characteristically, only a portion of the total requirements for such small system changes and additions can be earmarked sufficiently in advance to permit itemization prior to the beginning of the operating year. In practice the unearmarked portion is utilized to finance needs as they arise during the year. Total fund requirements, as contained in the budget, are estimated on the basis of past experience. The following tabel lists actual obligations against the "99" budget items for the fiscal years 1953 through 1956, and for the first 9 months of fiscal year 1957. It will be noted that budgeted requirements of $919,000 for fiscal year 1958 are in line with past experience.

Actual obligations for "Other transmission facilities"

Item	July 1, 1956, to Mar. 31, 1957	Fiscal year 1956	Fiscal year 1955	Fiscal year 1954	Fiscal year 1953
299 Seattle	$132,664	$242,700	$137,000	$123,954	$186,887
399 Portland	279,922	341,759	286,000	452,872	649,544
699 Upper Spokane	138,727	96,727	127,000	264,163	130,886
799 Lower Spokane	135,103	247,946	101,000	185,618	381,637
Total	686,416	928,928	651,000	1,026,607	1,348,954

The following tabulation lists in detail all components of the "99" items which are identifiable at this time. It will be noted that these total to $540,000 (construction of previously approved work, $269,000, and earmarked new work, $271,000). The balance of $379,000 is to provide for similar types of work which must be performed during the year.

Detail of other transmission facilities

[Items 299, 399, 699, 799]

Description	Continuation of previously approved work	New work	
		Earmarked	Unearmarked
SEATTLE AREA (ITEM 299)			
Work underway:			
Bypass switches, Ellensburg substation	$7,000		
Corrosion protection, Bonneville-Grand Coulee lines Nos. 1, 2, and 3	3,000		
Oscillograph, Columbia substation	10,000		
Miscellaneous capital additions	12,000		
New work:			
(1) Structure replacements, Naselle-Svenson line		$21,000	
(2) Bellingham substation spare transformer facilities		6,000	
(3) Royal substation terminal		7,000	
(4) Other new work:			
Retirement of Allyn switching station		12,000	
Retirement of telemetering and supervisory control, Cushman powerhouse		1,000	
Retirement of telemetering, Cowlitz substation		1,000	
Addition right-of-way clearing, Chehalis-Centralia and San Juan Island lines		5,000	
Replacement of disconnect switches and bus work, Moses Lake substation		9,000	
Installation of cooling equipment on railway-mounted spare transformers		8,000	
Connections for mobile spare transformers		4,000	
Transmission line vibration protection		3,000	
Transmission line catenary warning lights		2,000	
Unearmarked new work			$104,000
Subtotal	32,000	79,000	104,000
Total, item 299			215,000
PORTLAND AREA (ITEM 399)			
Work under way:			
(1) Cottage Grove metering	12,000		
(2) Langlois substation	69,000		
(3) Increased station service capacity, Salem substation	13,000		
(4) Other new work:			
Land cleanup	11,000		
Drainage, Ross substation	45,000		
Replacement of control cable, Alcoa substation	12,000		
Transfer trip relaying, Ross, Mill Plain, and Vancouver shipyard substations	9,000		
Access roads, St. Johns-Astoria line	8,000		
Station service transformers, Salem substation	4,000		
Extension of Ross-Vancouver shipyard line	5,000		

Detail of other transmission facilities—Continued

[Items 299, 399, 699, 799]

Description	Continuation of previously approved work	New work	
		Earmarked	Unearmarked
PORTLAND AREA (ITEM 399)—continued			
New work:			
(5) Transformer cooling fans, Lebanon substation		$10,000	
(6) Access roads, St. Johns-Astoria line		35,000	
(7) Access roads, Eugene-Coos line		40,000	
(8) Control cable replacement, North Bonneville substation		13,000	
(9) Control house, Westport substation		14,000	
(10) Railroad spare transformer cooler modification		8,000	
(11) Other new work:			
Transmission line vibration protection		9,000	
Transmission line catenary warning lights		9,000	
Battery and charger replacement, South Fork Bank substation		1,000	
Unearmarked new work			$100,000
Subtotal	$188,000	139,000	100,000
Total, item 399			427,000
SPOKANE AREA—UPPER PORTION (ITEM 699)			
Work underway:			
Oscillograph, Anaconda substation	3,000		
Miscellaneous capital additions	9,000		
New work:			
(1) Structure replacements, Brewster-Okanogon line		14,000	
(2) Vibration protection		11,000	
(3) Catenary warning lights		8,000	
(4) Other new work:			
Oscillograph, Bell substation		8,000	
Replacement of disconnect switch, Colfax substation		1,000	
Overhead ground wire, Hot Springs-Anaconda line		7,000	
Unearmarked new work			75,000
Subtotal	12,000	49,000	75,000
Total, item 699			136,000
SPOKANE AREA—LOWER PORTION (ITEM 799)			
Work underway:			
Relocation of Benton-Richland line	14,000		
Brush control, McNary-Ross line	8,000		
Miscellaneous capital additions	15,000		
New work:			
Oil storage tank, Richland substation		4,000	
Unearmarked new work			100,000
Subtotal	37,000	4,000	100,000
Total, item 799			141,000

Mr. RABAUT. I am referring to pages BP–76, No. 11, "Other new work" and also included in this item is the installation of apparatus to correct voltages, overload, switching dies and miscellaneous changes in addition.

Mr. CONKLING. If you will please turn to page BP–73, you will see, sir, that that total to which you are referring covers a large number of items of which the one that you read is only one.

Mr. RABAUT. I read the one with the most money in it.

Mr. CONKLING. $119,000?

Mr. RABAUT. Yes; some of the others are $8,000, $10,000, $13,000, $14,000 and a number of small items, and then the total comes to $427,000.

Mr. CONKLING. Yes, sir.

Mr. RABAUT. I am talking about the size of your whole operation.

Mr. CONKLING. That particular figure, Mr. Chairman, "Other new work," is based upon our experience each year. You know, of course, that we plan a period of months ahead of the time when we can definitely earmark all specific requirements. We earmark to the extent we can and you see before you in the other sub-items (1 through 10 of item 399) the specific jobs we have been able to earmark. Also we do know that we do have each year requirements of the general types that are spelled out in the justifications. We cannot say exactly where they are going to be. We cannot say what types they are going to be, but we do know that, because we are running an electrical system, we are going to have to meet them. Based on experience, we figure how much we need in unearmarked funds. That is an experience figure.

FUNDS FOR CONTINGENCIES

Mr. RABAUT. I want to tell you something. I am quick to find fault and I am ready to praise. You have very good justifications here and it shows a lot of work has gone into them, but I do feel that you have contingencies in here someplace. You should have for your own protection. It is necessary in any kind of a business and you cannot operate up to the last penny. This is the year when Congress is very cognizant of the taxpayers' requests. If you cannot find any contingencies in here at all, we are going to probably hit you in the wrong place. That is why I asked you about contingencies.

Mr. CONKLING. Mr. Chairman, may I comment on that?

I think that Mr. Starr and myself may have misunderstood what you meant by contingencies. My explanation meant that parts of our 99 items are intended to provide types of work that we think we are going to have to do, based on our experience in the past. We cannot earmark them now. Mr. Starr was trying to indicate whether in a specific estimate we, for example, added up our design costs, survey costs, and other cost components, and then added a percentage to that.

Mr. RABAUT. I think everything is in here. I think something can be cut.

Mr. PEARL. I am wondering if you are saying that we should have put in contingencies?

Mr. RABAUT. No; but I think they are in here anyhow, whether you are told to do so or not.

Mr. PEARL. I am afraid our budget is too realistic.

Mr. RABAUT. You have a very good budget and I see a lot of work in here.

Mr. PEARL. We try to make known to Congress everything in detail.

PARTNERSHIP PRINCIPLE PROGRAM

Mr. RABAUT. There appear to be two new construction items, 171 and 180, which involve the new ramification of the partnership principle.

Explain briefly this program.

Mr. PEARL. We have referred 2 or 3 times today to wheeling. It is our feeling that some 2 years ago no way existed for a large project

to come into the Northwest without the use of what we call wheeling. The Priest Rapids development is the best example we have, and, of course, the Priest Rapids Act stipulates the integration of this project with the Northwest pool and it stipulates equitable distribution of power over the Northwest.

The PUD, in order to sell bonds to put in this project, sold blocks of this power to the following customers (indicating chart "Priest Rapids Wheeling Customers"): The Cowlitz PUD, the Kittitas PUD, Puget Sound Power & Light Co., Seattle City Light, Tacoma City Light, Washington Water Power Co., Eugene Water and Electric Board, city of Forest Grove, city of McMinnville, city of Milton-Freewater, Portland General Electric Co., and Pacific Power & Light Co. They did this on the basis that the power would be wheeled over the Federal grid. There are 12 customers, of whom 11 plan to wheel. This column indicates the amount of power each one is buying, this column the distance it is going to go, and this column the kilowatt miles [indicating]. I have a map here that shows what would have happened except for wheeling. The dam is located in the east central part of the State of Washington. The customers who are buying the power are located all over the market area of the Bonneville system. In some cases they are as much as 370 transmission miles away. There is no one load center that could absorb the generation of that plant, but by 12 of them going together, they can. If it were not for the Bonneville grid and our wheeling program, that project could not have gone ahead.

If it were not for our grid they would have had to build this amount of line that we have indicated here to carry the power to these load centers.

Mr. RABAUT. How far are you stretching into the wilderness?

Mr. CONKLING. None. The power goes to present load centers to take care of the load growth. This would be economically impossible if it were necessary for them to build the lines from Priest Rapids to carry the power to market. The wheeling is done on a reimbursable basis. We have worked out a wheeling charge whereby the Government will be reimbursed for the cost of this wheeling.

ABANDONED PROJECT

Mr. RABAUT. I will go on now with this question: There was a third such proposal in the original budget submission and now eliminated in the Bonneville budget amendment, House Document 162, which involved a private utility, the Pacific Power & Light Co. Why is it being abandoned?

Mr. PEARL. At the time we made up our budget, over a year ago, the plan was for Bonneville to wheel the power from the Swift project which is in the southwest part of the State of Washington, to our grid at Longview and then south to Keeler. In the meantime, we have been making studies with the Pacific Power & Light Co. and they have now elected to build a line from Swift down past the east side of Portland and down to Salem.

Mr. RABAUT. Were they not interested in the other proposal that you had before?

Mr. PEARL. They were, at the time we put in our budget. In the meantime, they have elected to put in this line.

Mr. RABAUT. Did they help finance the study that you had on it?

Mr. STARR. They participated. They sent men to help us on our Calculating Board Studies and performed many studies independently.

Mr. RABAUT. What would their cost be, to them, compared to the cost to the Government for the same studies?

Mr. STARR. Perhaps they spent twice as much as we did on these studies. They employed a considerable amount of private analyzer time.

Mr. RABAUT. Then they dropped it after all of that study?

Mr. STARR. No; the results of the studies were that they chose to construct these circuits independently.

Mr. RABAUT. He must have had a poor deal then.

Mr. PEARL. There are other things that they will gain out of this.

Mr. RABAUT. What?

Mr. PEARL. For example, they keep steam plants operating in Portland. They call it spinning reserve. They felt that this meant that if they ran a line into the area that they could eliminate this cost which is material each year.

EXTENSION OF PARTNERSHIP PRINCIPLE

Mr. RABAUT. If you succeed in establishing a precedent in the partnership of this nature with public utility districts, do you then plan to extend the principle to private utility undertakings?

Mr. PEARL. We have asked our regional legal counsel to give us an answer. I would like to cover this briefly and then submit his answer for the record.

I asked three questions——

Mr. RABAUT. What does counsel have to do with this? Is this not a policy matter?

Mr. PEARL. As Bonneville Administrator, I would not enter into a contract without checking with the legal staff to see whether it were permissible.

Mr. RABAUT. I asked if you intended to extend the principle to private undertakings?

Mr. PEARL. We have already had approval to extend that. Congress last year approved wheeling for Pelton.

Mr. RABAUT. We will get to that a little later.

Mr. PEARL. I would like to answer that this way: When it comes to our wheeling power for private generation, we feel that we would have to have authority granted us by Congress before we could enter into such a contract. That has been our practice in the past.

Mr. RABAUT. Do you feel the same way about the public utility district?

Mr. PEARL. No. We think the Bonneville Act gives us that authority. Our regional solicitor was consulted.

I mentioned a statement a moment ago that I would like to submit for the record.

Mr. RABAUT. Supply it for the record, and cite the act, and give your interpretation.

(The matter referred to follows:)

Statement of Bonneville Power Administration Concerning Wheeling Authority

1. Authority to wheel Priest Rapids power on a long-term

The Portland regional solicitor of the Department of the Interior has advised that I have statutory authority to enter into firm contracts under which BPA would commit itself to transmit over the Federal transmission grid the power to be generated at the Priest Rapids development by the Grant County, Wash., Public Utility District. Such contracts can be made for a period of years and may provide for the transmission of power from the generating plant to the several load centers where the power will be utilized. The regional solicitor has advised me that analysis of the intent of Congress expressed in both the Bonneville Project Act and the Priest Rapids Act, and the legislative history of both of these acts, confers authority upon me as Bonneville Power Administrator to enter into such contracts and to commit the BPA to these activities. Section 2 of the Priest Rapids Act directs that the proposed Priest Rapids development be integrated with the Federal development which has been constructed as a part of the comprehensive plan. The act also requires the licensee of the Priest Rapids project to offer a reasonable portion of the power output of the project for sale within the economic marketing area within the neighboring States. These two requirements could hardly be carried out except through use of the Federal transmission network as a medium for wheeling. Likewise, as Administrator, I have been given authority under the Bonneville Act to construct facilities to interchange power with publicly owned power systems (sec. 2 (b) of the act), and have general contracting authority under section 2 (f) of the act to make contracts to carry out such power interchanges. I have been advised that the contemplated wheeling arrangements for Priest Rapids constitute just such interchanges of power as are within the meaning of the act.

2. Authority to wheel power for public agencies

I have been advised by the regional solicitor of the Department of the Interior that, while each case must rest on its own facts, I am authorized under the Bonneville Act to undertake in most instances the wheeling of power generated at various projects owned by public agencies over the transmission network of the Federal Government. The Bonneville Act expressly authorizes the Administrator to build Federal transmission facilities in order to interconnect Federal projects with publicly owned power systems. The act also expressly states that the purpose of such interconnection is to interchange power and energy. In most of the wheeling arrangements which I anticipate, a true interchange of power and energy may, and probably will, take place. Accordingly, I am advised that, except under most unusual circumstances, section 2 (b) of the act will authorize a contract relating to wheeling power through interchange arrangements between BPA and public agencies. It is not my habit to act upon such general information as this, and in every case where a particular wheeling arrangement is proposed, it is my intent to consult with the Solicitor's Office.

3. Authority for wheeling power for nonpublic agencies

I have been advised by the regional solicitor that I have authority to utilize excess transmission capacity in the Federal system for the purpose of transmitting power generated at the projects of privately owned utilities or other nonpublic agencies. I am further advised that express authority is probably required to enable me to make firm contracts permitting the Government to more than the use of excess capacity for these agencies on a long-term basis. As an example, we believe we have express authority to enter into a long-term firm contract to wheel power from the Pelton development of the Portland General Electric Co. by reason of our recommendations made to you last year and your approval of those recommendations. The Federal system is already interconnected with these utilities, as an incident to BPA's power sales arrangements with them, through the Northwest power pool, into which flows power generated by all of the generating agencies in the Northwest, both hydro and thermal. This pooled power flows over the transmission facilities of the Federal Government to the various load centers and this means that in effect a certain amount of power generated at privately owned projects is already being wheeled by BPA. The system which prevails in the Northwest

has been explained to Congress many times in these appropriation hearings, and Congress has heretofore acquiesced in this use of the Federal network of transmission lines.

Mr. PEARL. The first one is wheeling at Priest Rapids, which is a public group, both the Priest Rapids Act and the Bonneville Act give us authority to enter into these contracts. Wheeling for a public group, the Bonneville Act—and I would like to submit——

Mr. RABAUT. You can cite your authority of the act and put it in the record later.

Mr. PEARL. I have it written and ready to submit.

Mr. RABAUT. All right.

(The matter referred to follows:)

STATEMENT OF BONNEVILLE POWER ADMINISTRATOR CONCERNING AUTHORITY TO WHEEL PRIEST RAPIDS POWER

On the basis of the following opinion of the regional solicitor, Bonneville Power Administration has executed letters of intent under which the Administration agrees to wheel Priest Rapids power on a firm, long-term basis.

FEBRUARY 29, 1956.

To: Dr. William A. Pearl, Bonneville power administrator.
From: Regional solicitor, Portland.
Subject: Authority to wheel Priest Rapids power.

You have requested my opinion as to your authority to enter into firm contracts for a period of years for the purpose of transmitting the power to be generated at the Priest Rapids development by the Grant County, Wash., Public Utility District.

In examining this problem in light of the provisions of the Bonneville Project Act we find that specific powers have been conferred upon the Administrator which must be interpreted as an authority to engage in transmission activities for other than Federal generation under certain limited circumstances.

The Bonneville Act contains no express authorization for the use of Federal transmission facilities for wheeling nonfederally generated power. Neither does it contain an express prohibition against such use. The act does contain express authorization to engage in certain activities to which wheeling non-Federal power would necessarily be incidental.

These activities are clearly described in section 2 (b) of the act wherein the Administrator is directed, for the purpose of interchange of electric energy, to interconnect the Bonneville project with other publicly owned power systems "now or hereafter constructed." In my opinion of December 19, 1955, on the subject: "Wheeling Contract for Box Canyon Power to City of Seattle," I discussed in detail the legislative development of section 2 (b) to its present form and the reasons why the proposal to deliver the Box Canyon generation to the city of Seattle for the account of the public utility district, at an equitable charge, clearly came within the intent and purpose of the activities authorized and directed in the section.

While the mechanics of the Box Canyon proposal, as discussed in said opinion, are less complex than those contemplated in the proposed Priest Rapids wheeling contract, it can be demonstrated that the latter are essentially interchange transactions in the same sense as Box Canyon wheeling. When power is transmitted over the Federal network, it becomes a power pool transaction. Power is routed to the nearest loads, regardless of ownership of plants, after it enters the pool. This avoids duplication of major transmission lines. The members of the pool (of which the public utility district would be one) receive back the major portion of the power they contributed to the common reservoir by displacement over the main grid. Thus, a true interchange takes place, within the meaning of section 2 (b) of the act.

It should be noted that the interconnection spoken of is not restricted to interconnection with publicly owned generating plants but is with publicly owned systems. Nor is there any limit on the number or location of the interconnections. Thus, if the public utility district were to construct transmission facilities to points on the BPA system, the Administrator could interconnect with those facilities.

The Administrator is clothed with authority to enter into an agreement to engage in these activities and to use the Federal transmission facilities in order to carry out the contract with the public utility district. The Administrator's authority is implied from the provisions of section 2 (b) of the Bonneville Project Act which authorize him to interconnect the Federal facilities with those of publicly owned utility systems. The public utility district is a publicly owned utility system. The Administrator is authorized to interconnect with it for the purpose of interchange of power and energy. In my opinion, the transactions constitute an interchange of power and energy as contemplated by section 2 (b).

The general contracting authority, conferred upon the Administrator by section 2 (f) of the act, enables him to make a contract to implement the interchange of power contemplated under section 2 (b).

It is my further opinion that the following review of the Priest Rapids legislation and license proceedings confirms the fact that this development was intended to be brought within the purview of section 2 (b) of the Bonneville Project Act, and therefore constitutes a reaffirmation of the authority of the Administrator to contract to transmit the power to be generated at the development.

The Priest Rapids Act of July 27, 1954, Public Law 544, 83d Congress, 2d session, provides as follows:

"SEC. 2. The Priest Rapids Reservoir site shall be developed to utilize the optimum capabilities of the site as a part of the comprehensive plan for economically feasible control and utilization of the water resources for flood control, navigation, power, and other beneficial purposes. Before a license is issued, an applicant for a license shall submit a report on the details of its plans for development to the Federal Power Commission with particular reference to the integration of the proposed Priest Rapids development as a part of the comprehensive plan."

Section 1 of the statute makes reference to the former authorization of the Priest Rapids Dam by the Flood Control Act of 1950 (64 Stat. 170, 179), which authorized construction of the project substantially in accordance with the plans of the Chief of Engineers in House Document 531, dated June 28, 1949. The "comprehensive plan" twice mentioned in section 2 is the same as the plans contained in House Document 531. This is the so-called 308 report.

Under section 1 the Federal Power Commission has now issued license to Grant County Public Utility District No. 2. The license contains certain provisions, findings, and articles relating to transmission of Priest Rapids power and integration of the project.

The Commission opinion states:

"Although the application lists 'transmission lines' among the project structures, it further recites that final plans for transmission lines and system connections will be furnished the Commission at a later date."

This appears to reserve for future disposition the question of integration. It indicates that the complete integration plans of the licensee are not yet matured. It is known that the PUD has engaged in studies to determine whether it should construct lines in order to interconnect its project with the Federal transmission grid at Chehalis and Midway substations. Secretary McKay, on August 30, 1955, advised the FPC as follows:

"The Bonneville Power Administration has been collaborating with the applicant in planning the necessary transmission facilities. Joint analyzer board studies have been made by the applicant, Bonneville Power Administration, and other utilities that are planning the construction of hydro projects. If a license is issued, the Department is prepared to continue collaboration with the project sponsors in engineering and other studies and to enter into appropriate operating and transmission arrangements to achieve the most economical development."

The Federal Power Commisison also stated:

"In reporting on the application the Secretary of the Interior has recommended that any license issued should provide for hydraulic and electric integration and operation of the proposed project with the plants and reservoirs presently comprising the Columbia River system."

The recommendation to which the Commission refers is contained in the following paragraph of the Secretary's letter of August 20, 1955:

"The application calls for electrical coordination with the Federal system, and hence with the Northwest power pool. In conformity with enabling legislation authorizing the Priest Rapids development, it is recommended that the license, if granted, provide for hydraulic and electric integration and operation of the proposed development with the plants and reservoirs of the Columbia River system."

Following upon these various statements in the Commission opinion, the Commission found:

"(12) It is desirable to reserve for determination at a future date what transmission facilities, if any, are a part of the project and should be included in the license."

Pursuant to this finding No. (12), the following article was placed in the license:

"ARTICLE 48. The Commission expressly reserves the right to determine at a later date what transmission lines and appurtenant facilities, if any, shall be included in this license."

The Commission also placed in the license an article relating to integration, in the following words:

"ARTICLE 37. The licensee shall to the maximum feasible extent coordinate the operation of the Priest Rapids project (Priest Rapids and Wanapum developments) with the Northwest power pool."

While the Northwest power pool is not a legal entity, the intent of the article is clear when read in connection with the recommendation of the Secretary of the Interior, in which the concept of coordination with the Northwest power pool rests upon electrical coordination with the Federal system. This accords also with the factual situation in the Northwest, because the power pool could not exist in its present form but for the interconnected Federal transmission grid. Consequently, the licensee can carry out the mandate of article 37 only by entering into coordination arrangements with those agencies which comprise the Northwest power pool, including the Federal Government as owner of several of the plants and reservoirs of the Columbia River system.

The chain of authority to integrate the Priest Rapids project with the Columbia River system and projects interconnected therewith is thus forged of the following links:

1. The Priest Rapids Act requires the applicant to form plans for integration of the proposed Priest Rapids development as a part of the comprehensive plan, and to report the details of its plans for development to the FPC.

2. Pursuant to the plans reported to it by applicant and recommendations made by the Secretary of the Interior, the Federal Power Commission issued the license to the applicant requiring it to coordinate the operation of the Priest Rapids project with the Northwest power pool. The fulfillment of this requirement is dependent upon the Federal transmission system.

3. The Secretary of the Interior by administrative determination made a commitment to the Federal Power Commission (in reliance upon which it issued its integration findings) that the Department will enter into appropriate operating and transmission arrangements with the Priest Rapids projects's sponsors to achieve the most economical development thereof.

4. The Bonneville Power Administrator has general contracting power under section 2 (f) of the Bonneville Project Act to enter into contracts to carry out the purposes of that act, and likewise has power under section 2 (b) thereof to construct transmission facilities for interconnection of the Government system with other publicly-owned utility systems in the Pacific Northwest for the purpose of interchange of power and energy.

The question presented is: Are the foregoing legislative and administrative actions sufficient to authorize the Secretary or the Bonneville Power Administrator to enter into long-term contracts to wheel Priest Rapids power? Since all authority of these officers must be derived ultimately from Congress, does the integration provision of the Priest Rapids Act, coupled with the power interconnection provisions of the Bonneville Act, constitute authority to permit them to enter wheeling agreements to carry the power produced at the Priest Rapids powerplant over Federal transmission facilities?

To answer these questions it is necessary to establish the legislative intent. The Priest Rapids statute must "be construed so as to effectuate the legislative intent." *Kansas City Power and Light Co.*, v. *McKay, et al.* (115 F. Supp. 402) (appeal dismissed (225 F. 2d 924); certiorari denied 350 U. S. 884.) In the cited case it was also held that "although the interpretation of an act of Congress by those charged in large measure with administering the act is not conclusive, it is, nevertheless, entitled to persuasive weight."

The Secretary of the Interior is one of the officials charged in large measure with administering the Priest Rapids Act. This charge is imposed upon him by Congress in legislating that the site shall be developed "to utilize the optimum capabilities of the site as a part of the comprehensive plan for economically feasible control and utilization of the water resources for * * * power * * *,"

and further that the Federal Power Commission shall pass upon the "intergration of the proposed Priest Rapids development as a part of the comprehensive plan."

The key term in these provisions is the word "integration." There can be no doubt but that it was the legislative intent of Congress that the Priest Rapids project, even though constructed and owned by a BPA licensee, must be "integrated" with the projects comprising the comprehensive plan set out in H. Doc. 531, 81st Congress, 2d session.

So far as the licensee is concerned this integration with the Federal system is to be carried out under directives to be issued by the Federal Power Commission and embodied in the license. But integration cannot be accomplished by unilateral action of the licensee even under conditions imposed by the Commission. Action by the Secretary of the Interior is required to effectuate an integration with the projects and transmission system of the Federal Government. Congress by implication imposed duties, obligations, and responsibilities upon the Secretary by section 2 of the Priest Rapids Act. The nature of these duties is to be determined by defining what Congress intended in its use of the word "integration."

Webster's New International Dictionary defines "integration" as:

"1. act or process of integrating; specif., act or process of making whole or entire."

This authority is more specific in defining the verb "integrate," from which the noun is derived.

"Integrate, v. t.

"1. To form into one whole; to make entire; to complete; to round out, to perfect.

"2. To unite (parts or elements) so as to form a whole; also, to unite (a part or element) with something else, esp. something more inclusive."

In the case of *Superior Oil Co.* v. *Berry* (216 Miss. 664, 63 So. 2d 115), it was judicially determined that "to integrate," "* * * according to all definitions to be found in standard dictionaries, means the same thing as to unitize or to pool * * *." The court said:

"* * * that is to say, that to unitize is to pool, and that to pool the leases, as authorized by these two former statutes and the rules and regulations promulgated by the State oil and gas board pursuant thereto, is to integrate the interests of the respective parties involved in the unit."

These definitions are indicative only, but point to the conclusion that Congress in section 2 of the Priest Rapids Act intended that the Grant County PUD as licensee for Priest Rapids, and the Secretary of the Interior through Bonneville Power Administration as the agency having custody of the transmission system in the Pacific Northwest, should jointly effect an integration, unitizing, or pooling of the Priest Rapids project and its energy output with the Federal generating projects and the energy there generated. It necessarily follows from this legislative intention that the Federal system should be utilized to carry the pooled product to the various market outlets.

Is it possible to reach a different conclusion? Can it be said, instead, that Congress intended that the power of Priest Rapids should be integrated with that of Grand Coulee, Bonneville, and other Federal dams, but that after being placed in the common pool of power it should be denied release from the pool through Bonneville Power Administration's customary outlets for utilization by various purchasers thereof? Aside from the physical impossibility of this because of the innate nature of electricity, it would mean that Congress intended that a disintegration should follow after the ordered integration. Or did Congress intend that after the power of Priest Rapids was pooled with that of the Federal dams, it should be disposed of only under the contractual powers conferred upon the Bonneville Administrator under section 5 (a) and 5 (b) of the Bonneville Project Act, and section 5 of the Flood Control Act of 1944? This question must be answered negatively because the Priest Rapids Act in section 6 authorizes the licensee to contract for sale of Priest Rapids power, and permits BPA to purchase and dispose only of "power surplus to the requirements of the licensee and other non-Federal marketing agencies (public or private) within the economic market area." In other words, Cougress intended that the licensee would dispose of as much of the power as possible to non-Federal marketing agencies before offering power to the Bonneville Power Administrator. Congress knew that the only economically feasible means by which the licensee could offer the power to distant out-of-State marketing agencies would be by means of its transmission over the Federal transmission grid. If the licensee were to attempt to duplicate this grid in order to market the power from this one dam the cost of the power

would be so high that there would be no market for it in the region. This would defeat the objective of having the licensee market as much of the power as possible through non-Federal marketing agencies.

Legislative intention is also to be derived from the manner in which Congress granted authority to the licensee to develop Priest Rapids. Prior authorization and responsibility had been given to the Corps of Engineers to prosecute this development as part of a comprehensive plan for multipurpose control and utilization of the water resources of the Columbia River system for the benefit of the entire region. Act of May 17, 1950 (64 Stat. 170). Under this plan, power from the Priest Rapids Dam would have been fed into the Bonneville power system and marketed by the Administrator over the widest possible area under the authority of section 5 of the Flood Control Act of 1944. In passing the Priest Rapids Act, Congress was not abdicating this Federal responsibility for obtaining the optimum development of this site for the benefit of the people of the entire region. The act itself says that the plan is merely "modified" to permit the development of this site by a local interest. The terms of the act were such that Congress was continuing to recognize its responsibility of seeing that the people of the entire region benefited from the development. Not only was a time limit placed on the time within which the local interests must develop the project, but specific provisions were included to assure this regional benefit. The site was required to be developed "to utilize the optimum capabilities of the site as a part of the comprehensive plan for economically feasible control and utilization of the water resources for flood control, navigation, power and other beneficial purposes." The licensee was required to provide basic features for future installation of navigation and flood control facilities. The operation and maintenance of the project was to be subject to reasonable rules and regulations by the Secretary of the Army in the interest of flood control and navigation. And the license was to provide that "the licensee shall offer a reasonable portion of the power capacity and a reasonable portion of the power output of the project for sale within the economic market area in neighboring States and shall cooperate with agencies in such States to insure compliance with this requirement." This was required "to assure that there shall be no discrimination between States in the area served by the project."

None of the proposed licensees of the project, all of which had to be public agencies or commissions of the State of Washington, had any responsibility for serving power consumers in States other than Washington. This requirement that there be no discrimination between States in the area served is clear recognition by Congress of the regional or Federal interest in the project. Congress knew at the time it passed the act that the only feasible means by which power from the project could be made available with "no discrimination between States" was by the use of the Federal Government's regional power transmission grid.

The above indicates that the development must still be prosecuted in substantial accordance with the comprehensive plan set out in House document 531, 81st Congress, 2d session. The Federal Power Commission license emphasizes this point.

House document No. 531 contains provisions relating to the transmission system and its use for integrating the separate projects. The report is based throughout on the assumption that both the Federal and non-Federal systems in the region will be interconnected and integrated. This is clearly set out in the recommendations and summary of the report as follows:

"105. The transmission problem is essentially one of planning a network capable of integrating the operations and output of existing and proposed Federal powerplants on the Columbia River and tributaries, and of delivering their output to load centers throughout the Pacific Northwest. Federal policy as expressed by the Congress and reflected in administrative orders of the executive branch calls for the marketing of the output of the several river development projects in the Pacific Northwest by a single Federal transmission and marketing agency. The Bonneville Power Administration was established for this purpose. This report has been prepared on the basis that the marketing and transmission function will continue to be concentrated in a single Federal agency. Only by such integrated operation of the entire network can full advantage be taken of hydraulic and load diversities. Only a single network can assure maximum economics in construction and operation and greatest effectiveness in the application of Federal power policies and programs.

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"107. In accordance with presently established Federal policy it has been further assumed that power from the plants constructed on the Columbia River and its tributaries would be made available as needed to all communities of the region. The transmission system proposed herein is adequate for that purpose. This network will extend from points of generation on the Columbia River and its tributaries to local load centers where power will be delivered at wholesale to large industries and to non-Federal power distributors, public and private, for resale to ultimate consumers.

"108. The Federal network is now interconnected at numerous points with privately and publicly owned systems in the region. Provision has been made for the continued integrated operation of Federal and non-Federal power facilities in the interest of maximum economy and effectiveness" (H. Doc. 531, vol. VIII, p. 4087).

From the foregoing provisions, and especially the last quoted sentence of paragraph 108, it is apparent that the meaning of integration as expounded hereinabove is in accordance with the views and recommendations summarized in H. Doc. 531.

In my opinion the conclusion to be derived from the analysis of the Priest Rapids Act is that the authority to integrate Priest Rapids with the projects of the comprehensive plan for development of the Columbia River embraces and includes the authority to wheel the energy of Priest Rapids by means of the Federal transmission network.

CONSIDERATION OF LEGISLATIVE HISTORY

Consideration has been given to the legislative history of the Priest Rapids Act in order to test the foregoing conclusion. Examination of the legislative history shows plainly that Congress intended that Priest Rapids power should be wheeled by Bonneville.

At the hearings of the Subcommittee on Flood Control of the Committee on Public Works of the House of Representatives, 83d Congress, on the Priest Rapids hydroelectric project, the committee considered H. R. 4898 and H. R. 4899. These bills are not identical with the bill ultimately adopted (H. R. 7664), but the hearings on these bills were the only hearings held and the bill ultimately passed was substituted for them after revision to accord with the pertinent suggestions made during the hearings. Hon. Russell V. Mack, of Washington, sat as chairman of the subcommittee and the definitive testimony which he developed relative to wheeling of Priest Rapids power is at page 36 of the hearings on examination of the witness, Keith Willey, chief planning engineer of the project, as an official of Harza Engineering Co., of Chicago, Ill. The examination of the witness follows:

"Mr. MACK. If you put this power into that Pacific Northwest power pool, your surplus power, it would have to be sold, I presume, at a rate that Bonneville could resell it for $17.50; would it not?

"Mr. WILLEY. No; it would not. It would not be sold in any way to the Bonneville Power Administration. The Bonneville Power Administration would only act as an agency, in effect, leasing transmission lines. The contract for sales would be with the customers and the transmission may or may not be over Bonneville's lines.

"If it is necessary or might prove economically advantageous for the builder of the project to build its own transmission line, say, to the Seattle-Tacoma load center, or even Portland; then, the annual cost of that must be reflected in the rate that the power and energy would be sold for—and I am sure that also would be economically feasible.

"Mr. MACK. Do you mean you would enter into a contract with Seattle Power, the Seattle Public Utility, or the Tacoma Power Utility, and then you would enter into an arrangement with the Bonneville Power Administration to transport the power to that point for you at a certain fee?

"Mr. WILLEY. We wouldn't as an engineering firm, but just as a builder.

"Yes. In fact, to give an example of that, this contract I just mentioned for Box Canyon project, which is located—this is it right here—is being wheeled by Bonneville Power Administration to the Bellingham area, clear across the State."

The contract to which reference is made is that with Public Utility District No. 1 of Whatcom County, dated March 16, 1953, No. 14-03-001-10066. This is a firm contract under which the Bonneville Power Administration has agreed to carry 8,000 kilowatts of power from the Pend Oreille County Public Utility

District's Box Canyon project in northeastern Washington to the plant of the General Petroleum Corp., in northwestern Washington, served by the Whatcom County Public Utility District.

Nowhere in the hearings is there any challenge to the testimony of Mr. Willey on this subject. It appears that the committee accepted his statement relative to wheeling and recommended passage of the Priest Rapids bill (H. R. 7664) upon the representations made by him. In its report on the bill (H. Rept. 1601, 83d Cong., 2d sess.), the committee stated:

"Local interests desire to undertake the construction of the project at an earlier date in view of the large amount of hydroelectric power which will be made available for supplying rapidly expanding powerloads of the region. Before local interests can undertake construction, however, it is necessary to modify the existing authorization for the project so that a license can be granted pursuant to the provisions of the Federal Power Act. Development of the Priest Rapids site by local interests at this time would make available the power benefits to the region at an earlier date. * * *

"The committee concurs that the plan of development should be based upon detailed engineering studies, however, safeguards have been included in the bill to assure development of the Priest Rapids site for its optimum capabilities as a part of the comprehensive plan for the development and utilization of water resources in the Columbia Basin for the benefit of the people generally. It is desirable that the public benefits to accrue from power made available by this project be over as extensive an area as practical, and the license should be granted to the agency best able to accomplish such purpose."

And after some further discussion, the report comments that the bill, as amended, "assures that a reasonable portion of the power generated will be contributed to the Northwest power pool and integrated into the system presently in effect, thus providing the States of Oregon and Washington as well as neighboring States with an equitable share of such power if the project is developed in accordance with the provisions of this bill."

The purpose of Congress to spread the public benefits "over as extensive an area as practical" and to have at least a portion of the power "integrated into the system presently in effect" clearly indicates that Congress had in mind electrical integration and the use of an extensive transmission network throughout the region. The only such extensive transmission network is that of the Federal Government, as Congress very well knew; the report gives no indication that Congress intended that the only power which should be distributed over as extensive an area as possible should be that purchased by the Bonneville Power Administration under section 6 of the bill; and it results from these 2 purposes, 1 affirmative and 1 negative, that the only means of carrying out the intent of Congress to distribute the power benefits extensively over the region is to use the Federal transmission system as a wheeling medium, unless it can be insisted that it was the intent of Congress that the Grant County Public Utility District should duplicate the Federal transmission grid with parallel lines running extensively through the States of Washington, Oregon, and northern Idaho. There is nothing in the hearings or the report or in the legislation itself to indicate that Congress for one moment entertained this latter course as an alternative. Indeed, as noted above, the cost of this alternative would make the power unmarketable on a regional basis and thus defeat the very purpose of the act of encouraging development of this site by local interests.

The Senate report on the Priest Rapids bill (S. Rept. 1656, 83d Cong., 2d sess.) contains almost identical language to this just quoted from the House report. It likewise provides that the public benefits to accrue from power "be over as extensive an area as possible."

When the bill came to the floor of the Senate for passage, Senator Magnuson, a leading sponsor of the bill, and Senator Morse, who opposed it, debated the matter of interconnection and wheeling of power. At volume 100, Congressional Record, page 10216, the Senators discussed the provisions of the bill relating to interconnection. Senator Magnuson pointed out that the project would be connected with the power pool and would "go into the Bonneville power pool and lines." He said that it is the hope "that the cost of the power will be such that it can be put into the Bonneville pool." Senator Morse then commented "but Bonneville will be made the wheeler, and the wheeling costs will be added." Senator Magnuson agreed to the statement and pointed out that certain wheeling arrangements have already been made by Bonneville relating to the Northwest power pool.

The debate developed into an insistence by Senator Morse that the provision of section 2 of the bill should be made mandatory, and interconnection and integration required by Congress, instead of having this matter left for determination under an order of the Federal Power Commission. However, there appears to be no disagreement between the Senators upon the point that the intent of the bill is that, in the words of Senator Morse, "Bonneville will be made the wheeler."

Accordingly it appears clear that in both the Senate and House the legislative history reflects the legislative intent that the power from Priest Rapids Dam be distributed over the Bonneville transmission grid under agreements between Bonneville Power Administration and the Grant County Public Utility District and its power customers, and the statute should be so construed.

CONCLUSION

The conclusion to be derived from the foregoing analyses of the legislative intent of the Bonneville Project Act and of the Priest Rapids Act, and of their legislative history, is that the contractual powers of Bonneville Power Administration under the Bonneville Project Act are supplemented by the legislation relating to the Priest Rapids project, so that the Bonneville Power Administrator is empowered to enter into contracts to transmit power generated at the Priest Rapids project, through the Northwest power pool to the various wholesale customers of Public Utility District No. 2 of Grant County, Wash. Such wheeling contracts may be entered into by the Administrator upon a long-term basis, and since they are authorized by law, they would not contravene the statute (title 31, U. S. Code, sec. 665) prohibiting contracts in advance of appropriations.

J. LANE MORTHLAND,
Regional Solicitor.

ROCKY FORD-TACOMA

Mr. RABAUT. Referring to budget item 171, Rocky Ford-Tacoma, what is the total estimated cost of this transmission line?

Mr. CONKLING. $8,594,000.

Mr. RABAUT. What is the estimate of the benefits in terms of dollars that will accrue to the Government as a result of its construction?

Mr. CONKLING. That line, sir——

Mr. RABAUT. The benefits that accrue to the Government in dollars? That is all I want to know.

Mr. STARR. I would have to compute that and offer it for the record. It is a component of an overall interconnected system.

Mr. RABAUT. Put it in the record later.

(The matter referred to follows:)

The initial net benefits accruing to the Government from budget item 171 are computed to be $179,237 per year. These are determined as follows:

Annual value of system power and reactive savings	$410,050
Annual revenue from Priest Rapids wheeling on line	93,290
Gross benefit	503,340
Incremental annual cost of facility	324,103
Net benefits	179,237

The value of loss savings due to this facility will increase substantially in later years. Furthermore, and of equal importance it is our considered opinion that the 1961 system would be unstable without this line for certain system faults.

Mr. RABAUT. What do you estimate the total economic benefit that would accrue to the Grant County Pubilc Utility District if you built the transmission line proposed in this item?

Mr. PEARL. Do you want the dollar value? Again, I think we should submit that for the record. If you are interested in what might accrue to the Government by way of dollars for wheeling power from Priest Rapids, I can give you that value.

Mr. RABAUT. Here I am asking questions regarding money. This is an Appropriations Committee and if you people do not know what the value of this is to the Government, how can you call this a good operation? This is a money committee. This is where Uncle Sam spends his money.

Mr. PEARL. For the money that Uncle Sam spends, your annual income will be $860,452.

Mr. RABAUT. I wanted to find out if there are some places where we can arrive at what is the cost of this.

Mr. PEARL. There is no line that will only handle wheeled power. It is similar to having a truck that will handle 5 tons of yours and 1 ton of your neighbor's. It is wheeling power over lines that already exist in many cases.

Mr. RABAUT. What is the value of this item that we are talking about to this Grant County Public Utility?

Mr. PEARL. The Grant County Public Utility District sells the power to the customers I listed on the first chart, and the customer pays for the wheeling. As far as value is concerned, they do not enter into that picture. They sell it at the——

Mr. RABAUT. They collect it someplace and we want to know what it is worth to them. If it was not worth anything to them, why build this line?

Mr. PEARL. In other words, what would it have cost them to build the lines?

Mr. RABAUT. No; I am asking you what value it is to them.

Mr. PEARL. I am not sure that this is answering the question, but on this next chart, using Bonneville average wheeling costs and revenues as 100 percent, if they were to put in the facilities to do the same thing, it would cost them at least 185 percent to effect the same widespread distribution of the power independently of the Government system.

Mr. RABAUT. How much would our subsidy be to them then?

Mr. PEARL. Eighty-five percent of the wheeling cost figures that we have worked out. I think we should put in the record that if it were not for the Bonneville grid, that plant would not be built because there would be no practical way to get the power to all of these points shown in the Northwest.

Mr. RABAUT. That is what we are trying to find out. What is it worth to them?

Mr. EVINS. I am just trying to get information. The private power people cooperate so much so that you make studies jointly, to find out if it is profitable or not profitable for you to wheel power. Sometimes when you want to build the line, as you can here, they build it. In other cases where it is not profitable, they have the Bonneville Power Administration do it. In either case, their sharp pencil and figures work on both sides of the line. They figure out which is the most profitable to them and if they decide they want to build it, they build it, and if they decide they do not want to build it, they contract for you to wheel it.

Mr. PEARL. If they wheel it, they pay the cost so the Government is not out anything.

Mr. EVINS. They were out something here on this joint study.

CHIEF JOSEPH—ROCKY REACH—VALLEY

Mr. RABAUT. We have one here with reference to budget item 180. What is the total estimated cost of this project?

Mr. CONKLING. $14,910,000.

Mr. RABAUT. In the event you do not proceed with this project, what course of action will in all probability be taken by the Chelan County Public Utility District and Puget Sound Power & Light Co.?

Mr. PEARL. They have one choice. That is, to put in their own line.

Mr. RABAUT. What is your estimate of the benefit in terms of dollars that will accrue to these agencies if these lines are constructed by the Government?

Mr. PEARL. That is not an easy question to answer that you have asked. Any such information would have to be obtained from the utilities concerned and their studies are still in progress.

Mr. RABAUT. The Government is figuring on building this. I note in your justifications for this project that you state that if any of this is to be constructed nonfederally, that the Government will negotiate an appropriate reimbursement of any expenditures which it has made for surveys.

Mr. PEARL. We are asking for a small amount of money in our budget this year to make those surveys. If they elect to build the line, that statement applies.

Mr. RABAUT. No such statement appears in your justification of item 171. How do you differentiate between the two?

Mr. CONKLING. I might answer that this way, Mr. Chairman:

Item 180 is an item which is put into our budget on a rather clearly stated provisional basis. If it is finally determined that the Government should build the line, it is absolutely necessary that we have your authorization for planning and surveys at this time, for the beginning of the fiscal year.

If the decision is the other way, then, of course, we will not need any money. We may not have completed all of the joint studies, and the final determinations may not have been reached, before we spend money, but if that occurs, we will have an agreement as to reimbursement before we start spending money to protect us if it is later decided that the Government ought not to build the line.

Mr. RABAUT. I do not understand why you do not treat them both alike.

Mr. CONKLING. We feel that one is firm, sir. We feel that item 171 represents a firm plan, but the plans of the concerned utilities are not firmed and final with respect to item 180.

Mr. RABAUT. When you say "if it is decided," you are referring to whose decisions?

Mr. CONKLING. To a joint decision, I think, sir. These decisions are reached jointly between the Government and the concerned utilities.

EFFECT ON GOVERNMENT IF NONFEDERAL LINES ARE BUILT

Mr. RABAUT. In what way will the Government suffer a loss if the lines are constructed nonfederally?

Mr. PEARL. I do not believe that we could say that we would suffer a loss. Mr. Starr has been working on this and, perhaps, should answer that question.

Mr. STARR. Our policy is definitely not to oppose any privately built facility that does not harm our system; that is, if there is no harmful impact on our system, there is no opposition from us to the construction of a privately owned facility.

Mr. RABAUT. If we did not build it, then Uncle Sam would suffer no loss.

Mr. STARR. Sir, item 171 will soon be needed for Federal power alone even in the absence of the presently proposed wheeling service.

Eventually that line will be needed. The other item, 180, Chief Joseph-Valley, is required early principally because of the development of the Rocky Reach plant.

Mr. RABAUT. In accounting for an increase in the construction funds needed, your justifications state this stems from three principal factors, with No. 2 being the construction of transmission lines from non-Federal generating plants.

PERSONNEL WORKING ON CHIEF JOSEPH AND ROCKY FORD

Now, how many of your personnel will be involved in the work connected with the two projects cited?

Mr. STARR. I did not follow which items they were, sir.

Mr. RABAUT. Well, the 2 that we have been talking about, 171 and 180.

Mr. STARR. In the case of 171, sir, we will have our own engineers do most of the design.

Mr. RABAUT. How many employees will be involved?

Mr. STARR. Employees working on both items will vary from time to time, but I would say there would be an average of the order of 12 to 15 employees.

Mr. RABAUT. You may figure that out and put the right number down for the record, as well as the cost of their salaries.

Mr. STARR. All right, sir.

(The matter referred to follows:)

Personal service time and funds required for budget items 171 and 180, fiscal year 1958

	Number of employees concerned	Man-years	Personal service funds
Item 171:			
Survey contract administration	6	1.5	$10,900
Survey force account	8	3.3	13,500
Transmission design	13	2.1	17,000
Supply (steel)	5	.4	2,500
Land	6	.4	2,500
Total	38	7.7	46,400
Item 180:			
Survey contract administration	8	2.5	18,000
Survey force account	8	1.3	5,450
Transmission design	13	1.1	9,000
Land	3	.1	750
Total	32	5.0	33,200

Mr. RABAUT. What would be the effect on your personnel requirements if the construction of these transmission lines were to be handled by the utilities concerned? In other words, will this activity have the effect of requiring additional personnel or can your present staff absorb these duties?

Mr. STARR. I could answer that, sir.

Mr. RABAUT. All right.

Mr. STARR. The present staff can absorb those duties with the assistance of appropriate contracts.

PRECEDENTS FOR WHEELING NON-FEDERAL POWER

Mr. RABAUT. Item 171 actually involves the construction of 156 miles of 287-kilovolt transmission line. Item 180 involves 45 miles of 230-kilovolt line, and 112 miles of 345-kilovolt line.

In your justifications at page BP–3 you refer to the previously approved budgets where power was included from non-Federal plants to distant points. Was the facility in the case of the Box Canyon power project of 2 miles, 115-kilovolt transmission line, included?

Mr. CONKLING. Yes, sir; I believe it was, if I understand your statement correctly.

Mr. RABAUT. In the case of the Mayfield plant, there was a 6-mile tapline which was approved?

Mr. CONKLING. In addition to a 6-mile tapline, sir, I believe there was also an increase in voltage from 115 kilovolt to 230 kilovolt of our 26-mile line from Chehalis to Massyrock-Mayfield.

Mr. RABAUT. In the case of the Yale plant was the transmission line involved?

Mr. CONKLING. Yes, sir.

Mr. RABAUT. In the case of the Pelton plant, were we concerned with the 25-mile 230-kilovolt transmission line?

Mr. CONKLING. Yes, sir.

Mr. RABAUT. Would it be correct to say that this is the first instance of a transmission line of substantial proportions being built from a non-Federal plant to your transmission system?

Mr. PEARL. I think that is the first one, but it amounts to grid reinforcement, it is not a line from a non-Federal plant to our system.

Mr. RABAUT. This refers to 171; does it not?

Mr. PEARL. Yes; it refers to the Priest Rapids plant and its wheeling by power displacement.

Mr. RABAUT. How long is the line in 171?

Mr. CONKLING. 171 is 156 miles, sir.

Mr. JENSEN. Going from where to where?

Mr. CONKLING. Running from Rocky Ford to Tacoma. One hundred seventy-one is this circuit [indicating] from about the midpoint of one of the Grand Coulee-Midway circuits over to Tacoma.

Mr. RABAUT. The precedent was set by this one here—this 25-mile line? Is that what you are claiming? Is that your precedent—the Pelton?

Mr. CONKLING. The Pelton line provides for wheeling private power. The other item, of course, provides for wheeling public power.

Mr. RABAUT. Do you now have reference to the 156 miles?

Mr. CONKLING. That applies to Priest Rapids.

Mr. RABAUT. We are developing here the fact that this is the first time that you are really reaching out to transmit this power that is non-Federal power; is that right?

Mr. CONKLING. I think it represents a precedent.

Mr. RABAUT. How far did you go? How far was that line?

Mr. PEARL. There is one point I want to bring up, and that is these lines do not represent lines to wheel exclusively this power. In other words, those lines will handle Federal generation as well as the public or private non-Federal generation.

Mr. RABAUT. But you would not build them otherwise.

Mr. PEARL. I would rather state it this way: We would not build it this year.

Mr. RABAUT. You are agreeing, though, that this is the first time that this has been done?

Mr. PEARL. On a substantial basis, that is correct.

Mr. RABAUT. Is this a case of getting the camel's nose under the tent?

Mr. PEARL. Well, that is something. Of course, I would say that the Congress always has the authority to tell us what we can and cannot do.

Mr. RABAUT. Well, that is what we are trying to find out, if this represents the start of something that is going to amount to tremendous mileage probable after a while. It is a large expense.

For the Chief Joseph-Rocky Reach-Valley line, we have been unable to identify and locate a map in the justifications. Why was it omitted?

Mr. PEARL. A local map? I believe it is in there.

Mr. CONKLING. Just give me one second, and I will have it for you.

Mr. RABAUT. It is item 180.

Mr. CONKLING. Well, sir, it is in here, I know.

Mr. PEARL. It is the top red line on the big map.

Mr. CONKLING. It is on the back of page BP–54, sir.

Mr. RABAUT. Well, it is not in this book, by mistake, then. We have three blank pages, but that is all right. That is just an omission.

Have any of the new lines or facilities proposed in this budget been disapproved by the committee in the past?

Mr. CONKLING. No, sir.

Mr. PEARL. No.

Mr. RABAUT. On this item, and before we go to "Operation and maintenance," we will have any questions which any members of the committee desire to ask at this time.

Mr. JENSEN. Will someone step up to the map, please? I have a question I want to ask, and, when I name the lines, I wish you would point them out.

CHIEF JOSEPH-SNOHOMISH NO. 3

If the Chief Joseph-Snohomish No. 3 were operated at 345 kilovolts, would it eliminate the need for the Chief Joseph-Valley line and the Rocky Ford-Tacoma line?

Mr. STARR. No, sir; it would not.

Mr. JENSEN. Tell us why.

Mr. STARR. If we were to raise this line to 345 kilovolts now, it would force so much power into the Snohomish area that we would materially overload the Seattle City light system in producing the necessary power flow down in this direction [indicating] to the load

area which will be served by the proposed new circuits. The reason for routing the Chief Joseph-Covington line down this way [indicating] was to avoid putting so much power into this Snohomish area as to create another transmission problem.

Mr. JENSEN. When do you anticipate that you are going to need that 345-kilovolt line? In what year do you anticipate you will need it?

Mr. STARR. I would estimate that in about 5 years this line will have to be raised to 345 kilovolts by adding autotransformers.

Mr. JENSEN. How long would it take to build that line?

Mr. STARR. The line is constructed now, sir, and insulated for 345 kilovolts.

Mr. JENSEN. It is what?

Mr. STARR. It is insulated for 345 kilovolts, but is operating at 230 kilovolts.

Mr. JENSEN. It is operating now at 230 kilovolts?

Mr. STARR. Yes, sir.

Mr. JENSEN. How soon will you need the other lines?

Mr. STARR. This one down here [indicating] will be energized in September of this year.

Mr. JENSEN. When you say "down here," that does not mean anything in the record.

Mr. STARR. You mean the one from Chief Joseph to Covington?

Mr. JENSEN. Yes, sir.

Mr. STARR. That will be energized this fall. The other lines—the red ones which are the new ones——

TIMING FOR NEW CONSTRUCTION PROPOSED

Mr. JENSEN. When will the Rocky Reach plant be in operation?

Mr. STARR. The Rocky Reach plant?

Mr. JENSEN. Yes, sir.

Mr. STARR. I cannot answer that with certainty, but I can answer it for the record. I believe it is 1961.

Mr. PEARL. The fall of 1961.

Mr. JENSEN. It will be in operation in 1961?

Mr. PEARL. Yes, sir.

Mr. JENSEN. How about the Priest Rapids plant?

Mr. CONKLING. In 1960.

Mr. JENSEN. Now, then, why do you need to do this construction work we have just talked about in 1958, since it is 5 years into the future that you will be able to operate it?

Mr. CONKLING. They will not be energized until 1960 or 1961.

Mr. JENSEN. How long will it take to build them?

Mr. CONKLING. From 1958 to 1960 and 1961 gives us 3 to 4 years for survey, design, and construction, and that is just about our normal time for jobs of that kind. These are quite difficult jobs in that they both cross the Cascade Mountains through difficult passes. May I correct the record, sir?

Mr. JENSEN. Yes, sir.

Mr. CONKLING. The Rocky Ford-Tacoma line is scheduled for energization September 1960. That is item 171. The Chief Joseph-Rocky Reach-Valley line is scheduled for energization the fall of 1961, and those dates coincide with the present dates for completion of the

generating plants. Although we do understand that the Priest Rapids people may succeed in accelerating the completion of their plant, which would force us to accelerate, probably, completion of our line also——

Mr. JENSEN. Have the private companies indicated that they had a willingness to build any of these lines, and, if so, which ones?

Mr. STARR. The one that they have discussed building, sir, is the one from the Rocky Reach plant to the valley area near Puget Sound.

Mr. JENSEN. How many miles does that involve?

Mr. STARR. That is, roughly, 112 miles, I believe, sir.

Mr. JENSEN. Is that a line over which Bonneville Power comes, and there would be wheeling of non-Federal power?

Mr. STARR. Some of it is Bonneville power, and some of it is non-Federal power which will flow over that line if it were integrated back this way [indicating] to Columbia, or back to Chief Joseph, which is now proposed as a part of the plan.

Mr. JENSEN. What other lines that you are requesting funds for this year have the private companies indicated they might be willing to build?

Mr. STARR. There are none, sir, to my knowledge.

Mr. JENSEN. That is the only one?

Mr. STARR. That is it.

Mr. JENSEN. Have you been given a definite commitment?

Mr. STARR. No, sir.

Mr. JENSEN. They are making a study of it now?

Mr. STARR. We are studying it mutually; that is correct.

RELATIONSHIP TO PRIVATE UTILITIES

Mr. JENSEN. Since you entered into the Northwest power pool, there has not been too much controversy between the Bonneville Power Administration and private utilities; is that right?

Mr. STARR. That is correct.

Mr. JENSEN. Before that time, of course, the private power companies were pretty well down on their knees because of the fact that they had arrived at the point where they could not borrow but very little money to build powerplants because of the lower rate which Bonneville had, of course, which they could not meet. But since that time they have been able to borrow some money to build some lines, and the Bonneville power people have in some instances agreed to let them build those lines which they could build; is that right?

Mr. STARR. Actually, we support their desire to build these lines. We agree with them, if they wish to build lines that will serve them primarily and strengthen the grid; we are very happy to see them do it, and have encouraged them.

Mr. JENSEN. Of course, I do not have to tell anyone who has been with the Bonneville Power Administration for a number of years that I have always been insisting, as the committee has, and especially the Interior Subcommittee that used to handle this agency, and we finally, in about the year 1951, agreed with the Senate committee that, wherever private power companies or municipalities or REA's would build the necessary transmission lines to wheel Federal power at a fair rate, the Congress was not justified in appropriating money to build such lines. We have lived up to that unwritten yardstick pretty religiously.

I would not like to see the Federal Government and the Bonneville Power Administration build lines which private industry should build with its own money, and I hope that that is not the case in any of these projects that you are asking us to furnish money for today.

How long are you going to give the private power companies to ascertain whether or not they want to build this line?

Mr. STARR. Both of these circuits, sir, the Rocky Ford-Tacoma, and the Chief Joseph-Rocky Reach-Valley lines, will be needed increasingly to transmit Federal power, and actually by 1966, even without the Rocky Reach and Priest Rapids plants, those lines would be well used because of the shift of Federal power from this area [indicating] into the Puget Sound area. Since the Rocky Reach plant is now under construction, ownership decisions on item 180 will be made very soon.

Mr. JENSEN. So that my position may be made clear, I am going to make this statement:

In connection with the utilization of Federal transmission lines for the wheeling of non-Federal power, I want to express my firm conviction that only the excess or surplus capacity of Federal lines should be used for such purpose.

Whenever or wherever additional transmission is needed for non-Federal power over and above the surplus capacity of Federal lines, I am of the firm conviction that such lines should be provided by the non-Federal utilities concerned.

First and foremost, I do not think the taxpayers of the Nation should be called upon to finance the construction of Federal transmission lines for the primary purpose of transmitting non-Federal power.

I am for interconnection and integration of the Federal and non-Federal power supplies, wherever possible, so as to achieve maximum utilization of our resources, and I have always been for that.

But, there should be no monopolization by a Federal agency. I would also add that I do not expect, nor would I stand still for a minute, to have private industry have a monopoly because I think and I know it is going to take Federal money, private money, municipal money, REA money, and every kind of money to furnish sufficient power and transmission facilities in most every area of the United States. That has been proven.

The record of achievement in the pooling of power for maximum utilization in the Pacific Northwest is without equal in any other section of the country. There is no reason why such integration should not continue, but it should be on a basis of full participation by all major utilities in providing their proper share of the transmission additions needed.

NUMBER OF POSITIONS

I would like, Mr. Chairman, to have Bonneville furnish for the record, a summary of the positions and the amount of the personal services by organizations and functional groupings covering the past 2 years, and that proposed for 1958.

Mr. RABAUT. Without objection, it is so ordered.

(The matter referred to follows:)

Personnel by organizational units

Organization unit	1956 actual		1957 estimate		1958 estimate	
	Permanent positions	Total annual salaries	Permanent positions	Total annual salaries	Permanent positions	Total annual salaries
Administration:						
Office of Administrator	13	$110,995	13	$113,695	13	$113,695
Washington, D. C. office	5	40,620	5	40,835	5	40,835
Subtotal	18	151,615	18	154,530	18	154,530
Division of operation and maintenance:						
Office of director	4	34,225	4	34,360	4	34,360
Area management and customer service:						
Portland	19	118,165	19	119,855	20	125,970
Seattle	23	134,620	24	145,280	25	148,695
Spokane	28	156,205	28	157,605	28	157,605
Branch of system operation and power resources	70	477,182	73	503,422	76	518,587
Branch of customer service and power requirements	32	198,680	33	202,230	33	202,230
Area substation operations	238	1,439,503	254	1,520,601	274	1,636,353
Branch of plant services	238	1,277,135	240	1,292,916	242	1,299,266
Spokane plant services	32	172,465	32	172,883	32	172,883
Branch of maintenance	19	138,191	19	140,861	20	145,386
Area line maintenance	121	670,433	125	691,978	125	691,978
Area substation maintenance	110	643,820	125	723,503	127	732,846
Area meter and relay maintenance	76	462,100	80	509,585	83	527,930
Area communications maintenance	74	429,470	80	476,250	82	487,130
Subtotal	1,084	6,352,194	1,136	6,691,329	1,171	6,881,219
Division of engineering:						
Office of chief engineer	16	114,440	16	116,015	16	116,015
Branch of system engineering	45	322,160	46	338,985	47	342,400
Branch of design:						
Office of branch chief	5	43,855	5	44,205	5	44,205
Drafting and graphics	26	113,191	26	113,056	26	113,056
Transmission design	44	288,360	43	291,405	43	291,405
Survey and mapping	64	322,620	65	329,480	65	329,480
Substation design	92	572,296	90	583,596	90	583,596
Branch of land	36	181,650	38	186,870	39	190,285
Branch of construction:						
Office of branch chief	11	67,315	10	58,595	10	58,595
Line construction	111	554,785	111	559,463	111	559,463
Substation construction	189	1,118,082	186	1,112,294	186	1,112,294
Subtotal	639	3,698,754	636	3,733,964	638	3,740,794
Division of administrative management:						
Office of director	5	41,030	4	32,040	4	32,040
Branch of budget and management	15	103,940	15	103,940	15	103,940
Branch of finance and accounts	110	545,840	104	523,765	104	523,765
Branch of personnel management	52	299,435	52	296,180	52	296,180
Branch of administrative services	80	351,848	79	348,432	79	348,432
Branch of supply	179	890,364	181	903,459	181	903,459
Subtotal	441	2,232,457	435	2,207,816	435	2,207,816
Deduct amount for period prior to effective date of hourly pay increase [1]		—316,130				
Add within-grade pay increases				58,338		142,123
Total permanent positions	2,182	12,118,890	2,225	12,845,977	2,262	13,126,482
Adjustment for lapses, temporary employment, changes in pay, etc		339,374		526,223		416,418
01 Personal services		12,458,264		13,372,200		13,542,900

[1] Effective date June 10, 1956. See note below.

NOTE.—For comparability, all annual salary figures are as of July 1, 1956.

ENGINEERING CONTRACTS

Mr. JENSEN. Also furnish for the record for the same 3-year period a summary of the amount of engineering contracts or other similar contracts for work previously or normally performed by the staff.

(The matter referred to follows:)

Summary of amount of engineering services contracts by category for work normally performed by Bonneville Power Administration staff

	Fiscal year 1956	Fiscal year 1957	Proposed, fiscal year 1958
Substation design contracts	$200,599	$162,869	$75,300
Transmission-line survey contracts	134,730	134,479	[1] 419,000
Corrosion-investigation contracts	19,145	20,449	8,800
Totals	354,434	317,797	503,100

[1] Includes survey contracts in connection with fiscal year 1958, items 171 and 180.

FORCE ACCOUNT LABOR

Mr. JENSEN. I also would like to ask how much of your construction funds are you using in force account, and how much did you use for force-account work, or how much do you contemplate using in the years 1957 and 1958?

Mr. CONKLING. Just 1 second, sir; I will have that.

In 1956, Mr. Jensen, we had obligations of $1,659,586 of force account, as compared with a limitation of $1,752,000 from 1956 appropriations.

Mr. JENSEN. What was your total construction that year?

Mr. CONKLING. About $23 million or $24 million. The precise figure is $23,977,782.

In 1957, with a total construction program of about the same to date—that is, as of March 31—our force account was $1.5 million, precisely, $1,520,856; and the limitation for the full year—we never, of course, approach the limitation even for any 1 year—would be $2,244,000.

I have not computed the limitation for 1958, but I can do it for the record if you wish.

Mr. JENSEN. I wish you would do that.

Mr. CONKLING. Yes, sir.

(The matter referred to follows:)

The force account limitation on the requested fiscal year 1958 construction appropriation will be $3,017,040. It is estimated that the Administration's force account work during fiscal year 1958 will not exceed $2 million.

Mr. JENSEN. There was a time when we thought the force account was being abused and then we finally decided that there were times with the great personnel that you had that you could have done a lot of work with your own force—that is, that you asked for each year—rather than to let it out by contract.

Do you keep your regular force working constantly—your maintenance and operation force? In other words, are they always working?

Mr. PEARL. That is right.

Mr. JENSEN. You keep them working up to the limit?

Mr. PEARL. Yes, sir.

Mr. JENSEN. So, you do not let a contract that the regular employees can do, do you?

Mr. PEARL. That is correct.

Mr. JENSEN. You are watching that pretty close?

Mr. PEARL. That is correct.

Mr. JENSEN. That is all, Mr. Chairman.

JOINT SYSTEM STUDIES

Mr. FENTON. Is it not true that the network analyzer board studies have been almost wholly initiated and controlled by Bonneville with only nominal participation or control by the other major utilities of the region?

Mr. STARR. Originally, sir, we had the only network analyzer in the Northwest. However, as of now, there are several smaller ones, and the utilities of the Northwest employ the analyzers of the Westinghouse Corp., of General Electric, and of some of the universities on a per diem basis, and they do a considerable amount of their work with those analyzers.

So, we have no monopoly on analyzer time or facilities at the present time. We do have the largest system and we also probably have the most complete analyzer facilities.

Mr. FENTON. Do the private utilities systems have access to those services?

Mr. STARR. Yes, sir.

Mr. FENTON. They have access to those services if they wish?

Mr. STARR. Where we have an interest in the study, we will make the board available on a rental basis to them, and when it does not conflict with our own program.

RATES AND INCOME

Mr. FENTON. Is Bonneville's present rate structure such as to encourage the construction of substation and subtransmission facilities by Bonneville customers, or do you have a postage stamp rate and customer service policy that discourages any such customer participation on construction of their own service facilities and system network?

Mr. PEARL. We have a postage stamp rate. Our rate includes transmission to the load center.

Whether that discourages or not would be hard to answer because our rate does include transmission. It includes substations and transmission lines to the load center. We distinguish between transmission and distribution. We do not put anything in our budget which we would consider distribution; that is, handling the power after it arrives at the major load center.

Mr. FENTON. Do you make any added charge for additional points of delivery?

Mr. PEARL. When they meet our service standards, we do not. In other words, if a customer had a load growth that would justify a second point of delivery at some distance, we would put in the substation to serve them at this second point.

Mr. FENTON. That is not to discourage the customer?

Mr. PEARL. Their putting in a substation?

Mr. FENTON. Yes; his own.

Mr. PEARL. You must remember that when we put in a substation that is in our costs and our rates reflect that.

Mr. FENTON. What was the total energy sales by Bonneville and what is the average kilowatt-hour of such sales for calendar year 1956?

Mr. PEARL. In 1956, 25,974 million kilowatt-hours, and our revenue from the sale of electric energy—and excluding revenue from other sources—was $59,789,690. That is an average of 2.30 mills per kilowatt-hour. That is fiscal 1956.

Of course, we do not have it for 1957.

Mr. FENTON. Just put it in the record in order to conserve time. The answers to these questions I am asking may be inserted in the record.

(The matter referred to follows:)

For calendar year 1956, Bonneville Power Administration's total energy sales were 27,269 million kilowatt-hours. Revenue from the sale of this energy totaled $62,822,000, for an average revenue of 2.30 mills per kilowatt-hour.

Mr. ANDERSEN. What were the operation expenses for that same fiscal year?

Mr. PEARL. By operating expenses do you mean our operation and maintenance?

Mr. ANDERSEN. However you have it on your books. You stated your income. How much are your operating expenses for that fiscal year?

Mr. PEARL. It is on one of our charts. Operation and maintenance, $14,811,937.

Mr. CONKLING. That includes operation and maintenance for power plants as well as for BPA.

Mr. PEARL. That includes the powerplants at the dam, Army engineers and reclamation plants.

Mr. ANDERSEN. Thank you.

Mr. FENTON. What was the total direct industrial energy sales by Bonneville and what was the average kilowatt-hour revenue from such sales for calendar year 1956?

Mr. PEARL. Was that industry?

Mr. FENTON. Industrial energy.

Mr. PEARL. The reason I ask is because we serve some industries directly. Our customers can be grouped into four classes: Public agencies, private utilities, industries, and other governmental agencies.

If you are interested in knowing the number of kilowatt-hours we sold directly to industry——

Mr. FENTON. Direct industrial energy.

Mr. PEARL. 7,995,607,000 kilowatt-hours firm.

It is partly firm and partly interruptible. We will insert it.

(The matter referred to follows:)

Sales to industry, calendar year 1956

	Kilowatt-hours
Firm	7,995,607,000
Interruptible	4,188,713,000
Total	12,184,320,000
Average revenue in mills, per kilowatt-hours	2.02

Mr. FENTON. What percentage of the total kilowatt-hour sales do the direct industrial sales represent and what percentage of the total revenue does the direct industrial sales represent?

Mr. PEARL. We can supply those for the record. We have those all here. It is a matter of doing some adding.

(The matter referred to follows:)

Calendar year 1956 sales of electric energy

	Sales for direct industrial customers	Total sales	Direct industrial sales in percent of total sales
Kilowatt-hours	12,184,320,404	27,268,577,299	44.7
Revenue	$24,594,799	$62,822,408	39.1

Mr. FENTON. What was the average annual net revenue per kilowatt-hour from Bonneville power sales in calendar year 1956 after deduction of operation, maintenance, and fixed charges on the transmission facilities?

Mr. PEARL. We can supply that for the record.

(The matter referred to follows:)

Columbia River power system, fiscal year 1956,[1] revenue and expenses per kilowatt-hour sold

	Total amount	Mills per kilowatt-hour [2]
Sales of electric energy	$59,789,690	2.302
Other operating revenues	1,202,933	.046
Gross operating revenues	60,992,623	2.348
Gross expenses: Operation, maintenance, depreciation and interest	55,043,211	2.119
Net revenues	5,949,412	.229

[1] Corresponding data are not available for calendar year 1956 because the combined financial statemen s and audit report for all generation projects and the transmission system are prepared by the General Accounting Office only on a fiscal-year basis.

[2] Based on sales of 25,974 million kilowatt-hours.

FUTURE USE OF SYSTEM

Mr. FENTON. Is it not true that your preference customer contracts and policy provide for a pull back of power presently being sold to industrial and nonpreference utility systems if such power is needed to supply these preference customers?

Mr. PEARL. Our contracts with the private utilities have a pull-back clause in them, so on 5 years' notification we can pull back power from private utilities to serve the public agencies.

Our industries have a contract for a given amount of firm power that has no pull back in it. In addition to the firm power that we sell them, we also sell them interruptible power but not on a contract basis as of now.

Mr. FENTON. Assuming no new Federal generating plants over those now underway, would the expected area distribution of Federal power when fully required by preference customers only, be such as to

practically unload most of Bonneville's transmission lines in Oregon?

Mr. PEARL. We do not think that is the case. There are a number of factors to be considered. One is this wheeling. If we enter into the wheeling contracts, in which case the private utilities will be paying us for the wheeling, that will be one item that will tend to keep the lines loaded. Of course, there are some public agencies in Oregon, but your question is one that I would have to speculate upon.

Mr. FENTON. If you want to think about it and give the answer, all right.

Mr. PEARL. Mr. Starr works with that.

Mr. STARR. Would you like a statement now or for the record?

Mr. FENTON. Supply it for the record.

Mr. STARR. Yes, sir.

(The matter referred to follows:)

By January 1962, assuming the completion of our presently planned facilities in Oregon, most of the major transmission circuits in the area will be overloaded. These lines will not be operating at their loads of best economy because of heavy losses and system stability may be critical. However, with no new Federal generation other than that now under construction, the power available to this area will drop off about 35 percent by 1968 and the transmission circuit loadings will decrease in approximate proportion. The various major facilities will then be loaded to levels near their best economy and only a very few elements will be loaded somewhat under their levels of best economy. We have been fully aware of this possible situation and have taken steps to avoid the development of an uneconomical transmission situation. Of course, any wheeling responsibility will improve the overall economy by maintaining economic loadings on circuits which may otherwise be slightly unloaded.

CHARGES FOR WHEELING NONFEDERALLY GENERATED POWER

Mr. JENSEN. I think you should also have in the record the amount private utilities pay for wheeling power over Federal lines.

Mr. PEARL. We have a formula we can supply for the record.

Mr. JENSEN. Very well.

(The matter referred to follows:)

Proposed charges for wheeling nonfederally generated power over BPA grid

[Firm, long-term basis]

	Annual charges	
	Per kilowatt	Per mile
Main system, 230 kilovolts and above:		
Line terminal, outgoing line at generating plant, 230 kilovolts or above	$0.10	
Switching, network	.15	
Overhead, general plant	.30	
Transmission distance		$0.01
Line terminal, incoming line at major sub, 230 kilovolts or above	.10	
Main system, 115 kilovolts:		
Line terminal, outgoing line at generating plant, 115 kilovolts	.13	
Overhead, general plant	.10	
Transmission distance		.018
Line terminal, incoming line at 115 kilovolts	.13	
Major substation (230 and 115 kilovolts deliveries):		
Line terminal, for delivery at 230 kilovolts	.05	
230 and 115 kilovolts transformation	1.05	
Line terminal, for delivery at 115 kilovolts	.09	
Major substation (lower voltage deliveries, industrial and other large deliveries):		
Overhead, general plant	.15	
Transmission distance		.028
230 and lower voltage transformation and delivery terminals	1.95	
Secondary system:		
Line terminal, 115 kilovolts outgoing line	.15	
Overhead, general plant	.15	
Transmission distance		.028
Line terminal, incoming 115 kilovolts line to secondary station	.15	
Deliveries from secondary system:		
Line terminal, for delivery at 115 kilovolts	.09	
Feeders and lower delivery voltages	(1)	

[1] Annual cost of actual facilities used.

NOTES.—All charges, except those indicated by footnote 1, represent 1961 system average costs for the types of facilities or services to which they apply.

Mileages are airline miles plus 15 percent on the main system, and actual miles on the secondary system.

In computing specific wheeling charges, only applicable components apply.

The charges specified apply to all firm, long-term wheeling, for private, public, and industrial customers.

Wheeling customers absorb losses on average basis for facilities used.

ALUMINUM COMPANY REQUIREMENTS

Mr. FENTON. I have heard a rumor that the Aluminum Company of America turned down an offer of firm power from Priest Rapids at somewhat less than 3 mills per kilowatt-hour. Do you know whether this is true or not?

Mr. PEARL. I think that statement is true.

Mr. FENTON. Then it would appear there is not the demand for expansion of aluminum as some Federal power exponents would have us believe.

Mr. PEARL. If I were to give my personal opinion, the aluminum companies that are in the Northwest now are very anxious to purchase more firm power; 30 to 40 percent of the power they obtain from Bonneville is interruptible and subject to curtailment any time during the year we are short.

They are anxious to firm that power up. If you are interested in other aluminum companies, we have had two aluminum companies in the United States visit the West in the last year interested in locating reduction plants there. They are out there studying the possibility of obtaining a block of power.

Mr. FENTON. Why would they refuse to take it at this rate?

Mr. PEARL. They are negotiating for power at Rocky Reach. This block of power that Priest Rapids wanted to sell carried the

stipulation that they had to put in a reduction plant in the county. In other words, Grant County was anxious to have the industry that bought the power bring a payroll to the county. Alcoa was interested in the power to use at the plants they already have which are not in Grant County.

Mr. FENTON. How far away would that plant be?

Mr. PEARL. Vancouver would be 200 miles, I believe.

Mr. STARR. It is about 175, I believe.

Mr. PEARL. 175 miles to Vancouver and 55 miles to their other plant at Wenatchee.

Mr. FENTON. Surely they would not want to build a plant that close to their other plant.

Mr. PEARL. We are saying it is 175 miles from Priest Rapids, where the generation is located, to their larger reduction plant in Vancouver, Wash. That means the power would have to come 175 miles.

NEGOTIATION FOR WHEELING NON-FEDERAL POWER

Mr. FENTON. On page BP–3 of the justifications it is stated that this budget contemplates the wheeling of power from a number of specific non-Federal generating plants now planned or under construction. Did any of the utilities concerned make a written request of Boneville for such wheeling and, if so, what utilities and under what date?

Mr. PEARL. I should answer that by mentioning Priest Rapids. Priest Rapids contracts could not have been entered into without some way to get the power from Priest Rapids to load centers. So the answer to your question is they definitely requested wheeling.

Whether you say it is in writing, they did it personally, and we have had many meetings with them to discuss the wheeling of this Priest Rapids power.

There is one other item I should add. They requested written statements from us that we would consider wheeling that power for them before they entered into the contract for the dam. They could not finance the dam otherwise.

Mr. FENTON. Will you please furnish the answer for the record?

(The matter referred to follows:)

PRIEST RAPIDS WHEELING NEGOTIATIONS

The first written reference to Priest Rapids wheeling is Dr. Pearl's letter to Mr. G. A. Smothers of Grant County Public Utility District, February 11, 1955, acknowledging a letter of February 8, 1955, from the latter stating that H. Zinder & Associates were retained "to conduct the marketing and transmission studies in connection with the Priest Rapids project." Dr. Pearl wrote, "We have had preliminary discussions with engineers of the Zinder & Associates staff regarding this subject. * * *"

On September 3, 1955, Mr. G. A. Smothers wrote Dr. Pearl that, "Mr. Schultz (of Zinder & Associates) was informed that while you are still working diligently on the details of an appropriate wheeling contract, the principles underlying such a contract have now been rather definitely formulated and that you have reached a basis for establishing a wheeling charge * * *" and that "the purchaser of Priest Rapids power would thus make his own arrangements with BPA for wheeling * * *."

On September 22, 1955, Dr. Pearl wrote Mr. Smothers that, "Our Seattle office is working with H. Zinder & Co. relative to a preliminary draft of a new contract which should be forwarded to you at an early date."

After a long series of conferences, most of the purchasers felt that a guarantee as to wheeling was essential for them to sign contracts to purchase Priest Rapids power, therefore, on June 18, 1956, Mr. B. L. Price, Acting Administrator,

wrote to each purchaser of Priest Rapids power that "The Government will be willing to transmit — percent of the power from the Priest Rapids development to the (purchasers of Priest Rapids power) on the terms and conditions substantially as set forth in the above-mentioned prototype draft contract." (This was draft of June 18.)

Further conferences have been held modifying the draft of contract mentioned in the June 18, 1956, letter.

The Priest Rapids prospectus, in exhibit 2, page 2–2 (letter from H. Zinder & Associates to Grant County Public Utility District, subject, "Summary Report on Economic Feasibility of the Priest Rapids Development") states that, "BPA has agreed to enter into 50-year contracts with the district and the purchasers, jointly, to transmit power to load centers at rates based upon average cost. Charges for delivery at 230,000 volts to substations serving the Portland area are estimated at $2.34 per kilowatt-year. For delivery to substations serving the Seattle area, the estimated charge would be $2.12 per kilowatt-year. Transmission losses associated with such deliveries will be borne by the purchasers."

The opinion of the regional solicitor as stated in a memorandum to the Bonneville Power Administrator dated February 29, 1956, concluded that "The Bonneville Power Administrator is empowered to enter into contracts to transmit power generated at the Priest Rapids project, through the Northwest power pool to the various wholesale customers of Public Utility District No. 2 of Grant County, Wash. Such wheeling contracts may be entered into by the Administrator upon a long-term basis, and since they are authorized by law, they would not contravene the statute (title 31, U. S. C., sec. 665) prohibiting contracts in advance of appropriations."

POWER DELIVERIES

Mr. FENTON. Will you furnish for the record a tabulation showing for calendar years 1955 and 1956 the amount of energy and peak capacity of the power deliveries to each major industrial customer served direct by Bonneville?

Mr. CONKLING. Yes, sir.

(The matter referred to follows:)

Energy and peak power deliveries to major industrial customers served by Bonneville Power Administration

Customer	Peak (kilowatts), calendar years		Energy (kilowatt-hours), calendar years	
	1956	1955	1956	1955
ALUMINUM				
Aluminum Company of America:				
Vancouver plant	210,000	209,250	1,678,998,692	1,616,019,630
Wenatchee plant	183,966	129,724	1,165,461,995	730,199,777
Anaconda Aluminum Co	128,871	132,902	1,110,205,980	353,626,301
Kaiser Aluminum & Chemical Corp.:				
Spokane aluminum fabrication	48,500	45,750	347,109,733	312,198,094
Spokane aluminum reduction	369,900	364,500	3,098,783,906	3,056,956,329
Tacoma aluminum reduction	81,200	71,400	649,327,651	604,417,147
Reynolds Metals Co.:				
Longview plant	122,400	114,000	1,008,874,716	967,880,563
Troutdale plant	182,000	168,000	1,405,971,139	1,430,167,188
OTHER INDUSTRIES				
Carborundum Co	20,320	20,640	169,008,953	143,270,000
Crown Zellerbach Corp	26,776	27,635	86,718,024	107,740,061
Electro-Metallurgical Co	30,508	22,323	208,947,272	129,833,328
Hanna Nickel Smelting Co	65,780	39,000	348,423,510	221,040,712
Keokuk-Electro-Metals Co	16,560	15,160	120,973,421	112,995,274
Pacific Carbide & Alloys Co	5,500	5,500	40,568,000	35,013,680
Pacific Northwest Alloys	36,900	37,200	240,385,807	237,443,137
Pennsylvania Salt Manufacturing Co	21,400	21,200	179,325,000	164,203,000
Rayonier Corp	6,900	6,060	30,921,605	30,884,642
Victor Chemical Works	49,500	48,600	294,315,000	337,422,400
Total	[1] 1,606,981	[1] 1,479,044	12,184,320,404	10,591,311,263

[1] Noncoincidental.

Mr. FENTON. Will you also furnish a list of the contracts with Bonneville's major industrial customers and the amount of power and expiration date of each contract?

Mr. CONKLING. Yes, sir.

(The matter referred to follows:)

Contracts of Bonneville Power Administration with major industrial customers

Customer	Contract demand (firm), kilowatts	Expiration date
Aluminum Company of America:		
Vancouver plant	136,000	Oct. 30, 1971
Wenatchee plant	120,000	May 22, 1971
Anaconda Aluminum Co	111,000	Feb. 21, 1975
Carborundum Co	18,720	Jan. 15, 1974
Crown Zellerbach Corp	6,200	Dec. 18, 1967
Electro-Metallurgical Co	7,500	May 29, 1961
Hanna Nickel Smelting Co	65,000	June 30, 1973
Harvey Machine Co. (The Dalles)	40,563	Sept. 13, 1975
Kaiser Aluminum & Chemical Corp.:		
Spokane reduction plant	189,000	Sept. 30, 1973
Spokane rolling mill	35,000	Do.
Tacoma reduction plant	50,000	Do.
Keokuk Electro-Metals Co	7,300	July 26, 1973
Pacific Carbide & Alloys Co	3,250	June 30, 1973
Pacific Northwest Alloys Co	13,000	Do.
Pennsylvania Salt Manufacturing Co	13,600	Feb. 3, 1969
Rayonier Corp	2,300	Oct. 14, 1968
Reynolds Metals Co.:		
Longview	60,000	Oct. 2, 1970
Troutdale	142,100	Do.
Victor Chemical Co	31,200	Oct. 31, 1973

Mr. FENTON. Do you consider that the sale of power to utility systems for the "benefit of the general public and particularly of domestic and rural customers," as specified in the Bonneville Act, takes precedence over these industrlial contracts?

Mr. PEARL. We feel, of course, that the Bonneville Act gives us authority to sell blocks of power to industry on a firm basis. However, we also believe that the Bonneville Act stipulates that the preference customers must have the first choice.

Mr. FENTON. Regardless of whether it hurts them industrially or not?

Mr. PEARL. If there was a competing application, definitely it would go to the public group. Does that answer your question?

Mr. FENTON. Yes.

Mr. PEARL. If there were two applications, industry and a public group, the public group would get the power.

Mr. FENTON. Regardless of whether another plant would help them or not?

Mr. PEARL. That is right. If it was competing, the public agency would get it. Did you have in mind that one of our public agency customers would come in and ask for a block of power to serve one of our industries?

Mr. FENTON. Yes.

Mr. PEARL. The answer to that is "No." We would not provide them with the power to serve one of our industries.

Mr. FENTON. Do the private utilities come ahead of industry?

Mr. PEARL. No; the private utilities contracts all have a pull back in them, anyhow, in favor of the public groups.

Mr. FENTON. I always thought they had.

Will such industrial contracts be void at the end of the contract dates or even earlier if needed to supply preference customers?

Mr. PEARL. In answer to your question regarding the contracts becoming void at the date of expiration, I will say that I could not answer that question. I have often wondered about it myself, at the end of their 20-year contracts what the policy will be. That is some years off. They all have 10 to 18 years to run.

Mr. FENTON. That is not so far off. You cannot answer that one?

INTERRUPTIBLE POWER

Mr. PEARL. No; I would not like to even try.

Mr. FENTON. Finally, what priority now exists on secondary or interruptible power as between preference customers, private utilities, and industrial customers?

Mr. PEARL. Preference customers come first on the totem pole, private utilities second, and industries third.

Mr. FENTON. Is such priority in keeping with the spirit and intent of the Bonneville Act?

Mr. PEARL. We think it is.

NEED FOR LINES AND FACILITIES PROGRAMED

Mr. FENTON. Item 129. As this line is for transmission of non-Federal power, why not let the Portland General Electric Co. build the line and make proper adjustment in wheeling arrangements or service by displacement?

Mr. PEARL. That line is to tie their plant into our line that runs south to Redmond, and the benefits Bonneville derives from that line are appreciable. In feeding that power into our line at that point, it will mean it will be years before it will be necessary for us to run a second line to carry our loads. It means it will build voltage on the end of a line where it is very desirable and the power, of course, we will supply to Portland General Electric Co., will be by displacement. That is an example of wheeling that is extremely beneficial to Bonneville.

Mr. FENTON. Extremely beneficial to Bonneville?

Mr. PEARL. Yes, sir.

Mr. FENTON. You do have the right, do you not, Doctor, to the benefits of private lines?

Mr. PEARL. I did not quite understand.

Mr. FENTON. Bonneville has the right to service the private lines; do they not?

Mr. PEARL. Do you mean Bonneville wheels over a private line?

Mr. FENTON. No.

Mr. PEARL. We do that.

Mr. FENTON. You are permitting them to build that line; are you not?

Mr. PEARL. We are building the line.

Mr. FENTON. You are building the line, but why should you when private industry has the benefit of it or most of the benefit of it?

Mr. PEARL. I would like to say this off the record.

(Discussion off the record.)

Mr. PEARL. We can easily justify asking the Government to spend the money for that line because of the benefits that will accrue to the Government.

Mr. FENTON. Could not the company have built it and proper adjustments been made in the wheeling arrangements?

Mr. PEARL. Yes; I think the answer to that is "Yes," it could have been done.

Mr. CONKLING. Might I correct the record in a minor detail? The Portland General Electric Co. is putting in a section of that line from their Pelton Dam down to an interconnecting point at Round Butte. They are, of course, putting in the entire dam as well as this section of the line.

Mr. FENTON. Thank you. Bonneville 138 and 139. Why not delay these a year? You may put the answer in the record.

(The matter referred to follows:)

ITEM 138, SAND DUNES-NEPPEL

This facility consists of (1) 9 miles of 115-kilovolt line between the San Dunes switching station and Neppel (on the Columbia-Moses Lake line near Moses Lake) and (2) a switching station at Neppel to connect the foregoing lines and interconnect with the Washington Water Power Co. system. The budgeted energization date of July 1959 represents a delay of 1 year from the originally agreed completion date. This delay was protested by letter from the Grant County Public Utility District dated October 5, 1956, which states in part: "The district appeared before the city of Moses Lake repeatedly regarding issuance of a franchise through town to the Washington Water Power Co. * * *. We feel that every effort should be made to meet the original schedule." This line is needed to complete a loop which will serve the Grant County area and must be constructed as now scheduled to meet agreements reached with the city of Moses Lake and the district. These agreements include a temporary franchise to the company for the right to operate a transmission line through the City of Moses Lake until such time as the San Dunes-Neppel line can be completed by the Bonneville Power Administration. Therefore these facilities cannot be further delayed.

ITEM 139, EASTERN GRANT COUNTY SERVICE

This previously approved item consists of (1) the Potholes 150,000/250,000 kilovolt-ampere, 230–115-kilovolt substation, connected to the Grand Coulee-Midway 230-kilovolt line No. 2; (2) a 14-mile, 115-kilovolt transmission line from this point to Sand Dunes (southeast of Moses Lake); and (3) a switching station at Sand Dunes connecting with the Washington Water Power Co.'s 115-kilovolt Taunton-Stratford line.

Power requirements of the Grant County Public Utility District and Bureau of Reclamation are presently served by the Columbia-Quincy-Moses Lake 115-kilovolt line and a 115-kilovolt tie to the Washington Water Power Co. Stratford-Taunton 115-kilovolt line at Moses Lake. The load estimate is 86,000 kilowatts in July 1958 and 108,000 kilowatts in December 1958, while the combined capacity of these facilities is 80,000 kilowatts during that period. This condition established the scheduling of the Potholes substation, Sand Dunes substation, and Potholes-Sand Dunes line for September 1958.

During the July-August peak load the Columbia-Quincy-Moses Lake line loads to its capacity (60,000 kilowatts) between Columbia and Quincy. Because the Chelan powerplant is down at this time only 20,000 to 25,000 kilowatts can be obtained from the Washington Water Power intertie. At this time only a small amount of this power is coming from Taunton, but the Benton-Taunton line (jointly owned by the Atomic Energy Commission and the Pacific Power & Light

Co.) is loaded to its limit, 50,000 kilowatts. Under winter conditions the increased supply from Chelan is less than the increase in area loads. Making up this deficiency by sectionalizing the Stratford-Tauton line would again load the Benton-Taunton line to or beyond its operating limit. Upon energization of Potholes, approximately 30,000 kilowatts flows into Taunton to relieve the overload on the Benton-Taunton line.

Mr. FENTON. Bonneville item 150. Does the Bonneville system have unused reactive capacity that could be relocated and permit delay in added capacity?

Mr. STARR. We do not have enough now to get our voltage as high as it should be.

Mr. FENTON. You do not have enough now?

Mr. STARR. We do not have enough reactive capacity now to keep our voltage as high as it should be for best economy.

Mr. FENTON. Bonneville item 162 and 178. Will the Pacific Power & Light Co. provide the Walla Walla transformer?

Mr. PEARL. Can you answer that, Mr. Starr?

Mr. STARR. I doubt very much if they would, because our rates include delivery at the customer's voltage.

Mr. FENTON. When will you know?

Mr. CONKLING. Might I say we are requesting no funds at the moment for the installation of the Walla Walla transformer. Merely for the information of the committee, we indicated that tentatively the installation would probably be required by the fall of 1961.

Mr. FENTON. Where does the large increase in the Chehalis load come from?

Mr. STARR. May we supply that?

Mr. FENTON. Yes.

(The matter referred to follows:)

The increases in loads at 69 kilovolts at Chehalis substation result from (1) conversion of a portion of the Lewis County Public Utility District loads from delivery at 115 kilovolts to 60 kilovolts in October 1959. At this time, when the new 230/69 kilovolt transformer is energized, both east and west sections of the public utility district will be consolidated and served at 69 kilovolts. Double transformation will be avoided; (2) general increase in loads of customers in the area; and (3) postponement of the Silver Creek substation which would have fed the eastern section of Lewis County. The loads are as follows:

	1957-58	1958-59	1959-60	1960-61	1961-62	1963-64	1964-65
Lewis County Public Utility District, west section (after 58-59, west and east)	5,870	6,250	23,000	24,250	25,600	28,500	31,700
City of Centralia	8,200	9,600	11,000	12,500	13,700	16,500	19,500
Total	14,070	[1] 15,850	[1] 34,000	36,750	39,300	45,000	51,200
Lewis County Public Utility District, east section load (before conversion)	14,100	14,600	(2)	(2)	(2)	(2)	(2)
Total	28,170	30,450					

[1] Shown on page BP103 of justifications.
[2] Load carried at 69 kilovolts after conversion.

Mr. FENTON. Is there any need for additional transformer capacity at Covington at this time?

Mr. PEARL. Unless Mr. Starr can answer that, we will supply it for the record.

Mr. STARR. I believe it has been supplied in one form at least. We will be glad to furnish more information on that.

(The matter referred to follows:)

ITEM 178, COVINGTON TRANSFORMER REPLACEMENT

Loads at the Chehalis and Walla Walla substations will exceed the capacities of the transformers at these two locations by 1959 and 1961, respectively. It, therefore, will be necessary to add transformer capacity at the two substations. The necessary capacity can be added either by (1) purchasing two new 75,000-kilovolt-ampere transformer banks and installing them at Chehalis and Walla Walla at an estimated cost of $1,275,000 or (2) purchasing one new 150,000-kilovolt-ampere transformer bank, installing it at Covington, and moving the two 75,000-kilovolt-ampere banks now installed at Covington to Chehalis and Walla Walla at an estimated cost of $1,125,000. The latter plan is not only more economical by $150,000 but also provides 50,000 kilovolt-amperes of additional forced-cooled capacity at Covington (the 150,000-kilovolt-ampere transformer has a force-cooled capacity of 250,000 kilovolt-amperes whereas the two 75,000 kilovolt-ampere banks have a combined forced-cooled capacity of 200,000 kilovolt-ameperes). The justification for item 178, Covington transformer replacement, is therefore one of economics; however, the additional transformer capacity at Covington will be needed very soon to facilitate pooling operations in the Puget Sound area.

An additional benefit from the installation of the 150,000-kilovolt-ampere transformer at Covington is the elimination of the need for neutral boosters with a saving of $175,000. The installation of the 75,000-kilovolt-ampere transformer at Walla Walla, by varying system load flows, will prevent loads at the Roundup substation from exceeding the transformer capacity at that point.

The estimated January peak loads at Chehalis and Walla Walla are:

[Kilowatts]

	1958	1959	1960	1961	1962
Chehalis	28,000	30,000	34,000	37,000	39,000
Walla Walla	30,000	31,000	35,000	56,000	72,000

The peak loads at Covington are the combined result of flows between the four principal Bonneville stations in the Puget Sound area. These flows vary in effecting pool deliveries and integration. The Covington transformers have been loaded to nearly their forced-cooled capacity at numerous times.

Mr. FENTON. Would you take out item 165?

Mr. CONKLING. Yes, sir; 165 is deleted as part of our amendment.

Mr. FENTON. 171. If this or some other line is needed to dispose of non-Federal power from Rocky Reach, why should not the non-Federal utilities concerned provide for any needed transmission additions?

Mr. CONKLING. Are you referring to 180? Or is that Priest Rapids?

Mr. FENTON. If this or some other line is needed to dispose of non-Federal power from Rocky Reach, why should not the non-Federal utilities concerned provide for any needed transmission additions?

Mr. PEARL. We can supply that for the record. I can give you a brief answer.

(The matter referred to follows:)

The Government will need additional capacity in this area in the near future for Federal power alone. Since non-Federal plants are being constructed that can use this facility also through wheeling, it represents the best method of integrating Rocky Beach and Wells, both non-Federal plants, with the Northwest pool. By using high-capacity circuits for the purpose and loading them heavily, great overall transmission economies can be effected. That is the engineering reason.

On a policy basis, it is desirable that we build the line—provided that is the decision reached jointly with the owners of the Rocky Reach plant—because we feel that the Government should provide integrating transmission when desirable to encourage the development of new hydroelectric generating capacity with non-Federal funds. The funds needed for a new large hydroelectric plant run into the hundreds of millions of dollars. If this investment is provided non-federally, pressure for congressional appropriations is reduced correspondingly. Therefore, we feel that the much smaller appropriations required to permit wheeling over the Federal grid are well justified. In total, they serve to reduce appropriations, not increase them.

In the 1956 Annual Report of the Secretary of the Interior, Assistant Secretary Aandahl stated as follows:

"As a part of the partnership program approval was given Bonneville Power Administration to enter into long-term firm contracts with non-Federal generating utilities for transmission of power over the Federal transmission grid in the Northwest. In order to obtain full regional integration and to secure the most economical use of resources, Bonneville Power Administration will build feasible additional transmission facilities as needed. Reimbursement will be on a use-of-facilities basis." (From the section of the Office of the Assistant Secretary, Water and Power Development, p. 4–5.)

Mr. FENTON. Has there been any written request to Bonneville to wheel or otherwise provide transmission for all of the non-Federal Rocky Reach power?

Mr. PEARL. There have been exploratory requests and discussions, but the matter is still in the study stage as we state in our budget document.

Mr. FENTON. In any event, is it not true that this line or any alternate can be delayed a year?

Mr. PEARL. No, perhaps Priest Rapids is speeding up and we may have to speed up rather than defer a year.

ROCKY REACH TRANSMISSION STUDY

Mr. FENTON. What actual part did Puget Sound Power & Light Co., Seattle, Tacoma, and Chelan PUD take in the Rocky Reach transmission study?

Mr. CONKLING. I can answer that by saying they are taking a very active part and at the present time they are speeding up their own separate study to the earliest possible completion.

Mr. FENTON. What respective man-hours were provided by each and how much of the cost did each bear?

Mr. PEARL. I think that is something that Mr. Star should supply for the record, because he can give you that accurately.

Mr. FENTON. Fine.

(The matter referred to follows:)

The following is a summary of the joint Rocky Reach study, including use of the A. C. analyzer and personal services. This information is estimated:

	Bonneville Power Administration	Chelan County Public Utilities District, Tacoma, Seattle, and Puget Sound Power & Light Co.
Number of people	9	3
Man-days	2,900	2,160
Cost of man-days	$11,760	$8,750
Cost of Bonneville Power Administration analyzer	5,250	
Total cost	17,010	8,750

BPA has no information concerning the personnel involved or the cost of the study now being made independently by the Puget Sound Utilities Council.

Mr. FENTON. What justification did Bonneville have for making the study? Could not the project utilities have made their own study?

Mr. PEARL. In many cases they do make their own studies. Whenever we have an interest, such as the overall problem of taking this power to the load center, then we have sufficient interest in it so we take part in the study and work with them. These are what we call cooperative studies.

Mr. CONKLING. I was going to add, Doctor Fenton, that it is impossible to conduct a study with respect to the transmission for a major plant without our participation, because we do function as a grid and the integrated flows must be studied jointly.

Mr. FENTON. Were the Rocky Reach studies based on BPA regional load estimates, or on the load estimates of the utiilties?

Was full recognition given to all potential or probable non-Federal generation and loads?

Mr. PEARL. Yes, sir; the studies were based on the load estimates of the utilities (the summation of which is incorporated in BPA's estimates) and recognition was given to probable non-Federation generation in the cooperative studies.

Mr. FENTON. Is it not true that these studies can be delayed 2 years after item 171 which can be delayed 1 year?

Mr. PEARL. We do not think so.

Mr. FENTON. Can you give the reason for it?

Mr. PEARL. Yes.

(The matter referred to follows:)

ITEM 171, ROCKY FORD-TACOMA

The Rock Ford-Tacoma line will be urgently needed by the fall of 1960 at which time the Priest Rapids plant will be in operation. This plant is actually being speeded up for an earlier energization and for complete integration must be connected to the BPA system at Midway. The cost of added system losses without this line will then be over $400,000. Furthermore, incomplete studies have definitely indicated that the system will be unstable without this circuit for the more severe faults that can be anticipated.

Hence it is not possible to defer initiation of construction activities for the Rocky Ford-Tacoma transmission line for 1 year since the required energization date is September 1960. Three to three and one-half years are required for economical construction of typical main grid transmission lines. Four and one-half years are required for some lines crossing the Cascade Mountain range where snow and bad weather at high elevations limit construction work to a few summer months.

For item 171, detail surveys will require 10 months. Complete engineering design details of the specific components must be spread over a 22-month period. Much of this design cannot be initiated until surveys are well along or completed. Specifications for material orders must be prepared and bids issued during the design process. Delivery schedules must be coordinated with on-the-job construction requirements.

Acquisition of land easements is initiated after surveys locate the actual route and property titles are determined. This process is scheduled for a 10-month period, since negotiations and legal procedures must be conducted with hundreds of landowners.

Clearing of the right-of-way for this 171-mile line will require 9 months. This work must necessarily be scheduled after land acquisition.

Following the above work schedules, erection of towers, stringing and sagging of conductors, cleanup, test, and energization will require a 13-month period.

ITEM 180. CHIEF JOSEPH-ROCKY REACH VALLEY

The Chief Joseph-Rocky Reach Valley line is needed 1 year later, in the fall of 1961. Its energization must coincide with that of the Rocky Reach plant, which will need this circuit for complete integration. Federal power will also flow over this facility, and a heavy circuit will accommodate this additional power with best overall economy.

This line is one of the circuits which has to cross the Cascade Mountains and will traverse rugged terrain at high elevations having difficult access. The construction period is confined to a few summer months in the high elevations. This is 1 of the circuits which requires a total construction time of 4 to 4½ years.

Planning and partial detail surveys must, therefore, be initiated in fiscal year 1958 in order that the October 1961 scheduled energization date may be met to accommodate the increased power flows into the Puget Sound area.

NEED FOR LINES AND FACILITIES PROGRAMED

Mr. FENTON. On No. 212, why not let the public utility district build into the Raymond substation?

Mr. CONKLING. Would you like that for the record?

Mr. FENTON. Yes.

(The requested information follows:)

BPA SERVICE POLICY

The Bonneville Power Administration, in accordance with the Bonneville Act, the Department of the Interior's power policy, and the Administration's customer service policy will construct facilities necessary to deliver power to the load centers of its customers.

Section 2 (b) of the Bonneville Project Act of 1937 states in part "In order to encourage the widest possible use of all electric energy that can be generated and marketed * * * the Administrator is authorized and directed to provide, construct, operate, maintain, and improve such electrical transmission lines and substations and facilities and structures appurtenant thereto, as he finds necessary, desirable, or appropriate for the purpose of transmitting electric energy, available for sale, from the Bonneville project to existing and potential markets * * *."

The power policy of the Department of the Interior in paragraph 2 "Transmission facilities" indicates:

"The Department of the Interior will construct and operate transmission lines that are economically feasible and necessary for proper connection and operation of federally owned generating plants. Transmission facilities will also be built and operated to carry power to load centers within economic transmission distances unless other public or private agencies have or will provide the necessary facilities upon reasonable terms. These terms shall generally be such that the federally produced power will be made available to customers at costs not higher than would result from the construction of transmission facilities by the Federal Government."

The Bonneville Power Administration's customer service policy is to undertake delivery of power at wholesale within economic transmission distance, at its uniform rates under the conditions that:

(1) The best engineering plant of service has been determined.

(2) The Administration will normally provide transmission facilities and stepdown substations to transform the power from transmission voltage to a lower voltage for delivery to the customers.

(3) Points of delivery of the power will be made at or near load centers determined by the joint load and system studies to be the best economic and engineering solution, considering all transmission and distribution factors involved.

It is the further policy of the Administration to construct transmission lines operating at 115 kilovolts or higher voltages.

(4) Any individual service must provide at least sufficient estimated revenues over the initial 10-year period of service to cover the estimated annual costs of the specific facilities installed by the Administration.

Under the foregoing conditions the Administration will construct facilities to deliver power to a customer's load center. On the other hand, if the best engineering and economical plan of service is to construct facilities at lower voltages than 115 kilovolt, or to provide service by means of extensions of the customer's system, or to obtain service from existing points of delivery, or if not financially feasible to the Administration, then the customer will be expected to provide the necessary facilities or bear their cost.

The "uniform rates" of the Administration, which operate on the "postage stamp" principle of delivering power within its marketing area at usable voltages, have two components. These are costs of generation and costs of transmission. Since a customer pays a uniform rate and thus pays his share of transmission costs, he is entitled to have power delivered to him at usable voltages and at needed delivery points over facilities provided by the Administration under qualifications previously stated. The Bonneville Act stipulates that "* * * rate schedules may provide for uniform rates or rates uniform throughout prescribed transmission areas in order to extend the benefits of an integrated transmission system and encourage the equitable distribution of the electric energy developed at the Bonneville Project."

In the particular case of item 212, the best engineering and most economical plan of service was to construct a 115-kilovolt transmission line to the Pacific County PUD load center and to provide a stepdown transformer at the Willapa River substation. Therefore, the Administration proposes to provide the facilities in accordance with policies previously stated because the service involved meets the requirements of its customer service policy and because the customer is entitled to such service under the rate he will pay.

It is true that the customer could have built 12.5-kilovolt lines into Raymond substation, but this is not good engineering because of excessive losses or economical because of costs.

Mr. FENTON. Bonneville No. 215. What justification exists for Bonneville to build a line to provide an outlet for non-Federal power? Why could not Tacoma build its own line?

Mr. CONKLING. I can supply that for the record, sir.

(The matter referred to follows:)

It is true that the city of Tacoma could construct its own transmission lines to transmit energy generated at its Mayfield plant. However, it is to the administration's advantage to have the output of the Mayfield plant transmitted to its Chehalis substation rather than to substations on the city's systems at Tacoma, Wash. Chehalis substation is a "low" point on the administration system as far as voltage is concerned, and the reactive component of energy provided by the Mayfield generators will improve the power factor on the administration's system, raise voltage, and provide added power by displacement to meet loads fed from Chehalis substation.

The annual costs of the administration's Chehalis-Mayfield line will be met by charges made to the city of Tacoma for "wheeling" the output of the Mayfield plant to its system. This gives a double advantage to the administration in that not only is its system improved as mentioned through the connection of the Mayfield plant, but also because the annual costs of such connection are recovered by "wheeling charges." On these bases the administration, by agreement with the city of Tacoma, planned to build the facilities covered by item 215, which are now under construction under previous approvals.

Mr. FENTON. Is there any other way to supply the public utility district load? Why cannot the public utility district build its own substation?

Mr. PEARL. The questions you are asking really involve our policy. In other words, we have a definite policy of under what conditions we will build a substation, a second substation for a given customer. If they meet our standards for service, we build it. If they do not, if the public group wants the second point of delivery, then it is up to them to build it. They call that our customer policy. This one meets our policy requirements, or we would not have it in the budget.

Mr. FENTON. That is what we are trying to get, policy.

Bonneville No. 220, and Bonneville No. 241, the same question. Why not let the public utility districts build these little feeder lines and substations?

Mr. PEARL. We will supply that.

(The matter referred to follows:)

ITEM 220. LARSON SUBSTATION

ITEM 241. EPHRATA SERVICE

Item 220 includes the Larson substation and a 1 mile, 115-kilovolt transmission line and item 241 the North Ephrata substation and a 4-mile 115-kilovolt connecting transmission line. The Administration is constructing these facilities under policies outlined in detail in the statement submitted in response to Dr. Fenton's question concerning item 212, and because the Grant County Public Utility District is entitled to the previously approved service under the power rates it will pay. Studies made jointly with the public utility district definitely indicate the economy, feasibility, and good engineering of having the Administration provide service over the facilities under discussion.

Mr. FENTON. Bonneville No. 335. What is the economic comparison with the second 115-kilovolt line? If 230 kilovolt is indicated, why not run to Albany substation?

Mr. PEARL. That is an engineering question and we will supply you with an answer.

(The matter referred to follows:)

ITEM 355. TOLEDO AREA SERVICE

The Toledo area is now served by a 115-kilovolt line from the Albany substation to the Toledo substation. Loads will exceed the capacity of this line in 1959. In developing a plan for adding transmission capacity into the Toledo area, two plans have been studied—plan I includes a 230-kilovolt line from a point on the main grid (near Albany) to Toledo, and plan II includes a 115-kilovolt line from Albany to Toledo. Plan I has been chosen because over a 10-year period annual costs are $449,000 less than for plan II. The following tabulation shows the loads, investments, and annual costs over a 10-year period:

Toledo area service plan I—Addition of 230-kilovolt transmission line

Year	Load, kilowatts	Investment	Interest, amortization, operation, and maintenance	Power losses	Total	Cumulative total
1959–60	58,800	$2,227,000	$89,000	$26,000	$115,000	$115,000
1960–61	63,800	2,227,000	89,000	31,000	120,000	235,000
1961–62	76,700	2,227,000	89,000	45,000	134,000	369,000
1962–63	80,600	2,227,000	89,000	50,000	139,000	508,000
1963–64 [1]	84,500	2,227,000	89,000	10,000	99,000	607,000
1964–65	88,300	2,227,000	89,000	11,000	100,000	707,000
1965–66	99,500	2,227,000	89,000	13,000	102,000	809,000
1966–67	108,900	2,227,000	89,000	16,000	105,000	914,000
1967–68	118,600	2,227,000	89,000	19,000	108,000	1,022,000
1968–69	130,000	2,227,000	89,000	23,000	112,000	1,134,000
10-year total		2,227,000	890,000	244,000	1,134,000	1,134,000

[1] Line converted from 115-kilovolt to 230-kilovolt operation.

Toledo area service plan II—Addition of 115-kilovolt transmission line

Year	Load, kilowatts	Investment	Interest, amortization, operation, and maintenance	Power losses	Total	Cumulative total
1959–60	58,800	$1,206,000	$68,000	$30,000	$98,000	$98,000
1960–61	63,800	1,206,000	68,000	35,000	103,000	201,000
1961–62	76,700	1,206,000	68,000	51,000	119,000	320,000
1962–63	80,600	1,206,000	68,000	58,000	126,000	446,000
1963–64 [1]	84,500	2,352,000	133,000	36,000	169,000	615,000
1964–65	88,300	2,352,000	133,000	39,000	172,000	787,000
1965–66	99,500	2,352,000	133,000	50,000	183,000	970,000
1966–67	108,900	2,352,000	133,000	59,000	192,000	1,162,000
1967–68	118,600	2,352,000	133,000	70,000	203,000	1,365,000
1968–69	130,000	2,352,000	133,000	85,000	218,000	1,583,000
10-year total		2,352,000	1,070,000	513,000	1,583,000	1,583,000

[1] Additional 115-kilovolt line required.

NOTE.—Facilities common to both plans I and II have been excluded from the above analyses.

Under the proposed plan I, the 230-kilovolt line will follow the shortest practical route between the Santiam and the Toledo substations. This route intersects the 115-kilovolt Salem-Albany line at a point 6 miles from the Albany substation. In the initial step the section between this point and Toledo will be constructed for 230 kilovolts, and operated at 115 kilovolts by tapping the Salem-Albany 115-kilovolt line. The tap will eliminate the need for 6 miles of line from this point to the Albany substation and a 115-kilovolt terminal at Albany.

Mr. FENTON. Bonneville No. 619. Why not let customers construct their own lines? What is the probable future 1958–59 load based on the actual 1956–57 load?

Mr. CONKLING. We will supply that.

(The matter referred to follows:)

ITEM 619. SPOKANE VALLEY AREA SERVICE

Under authorities and policies stated previously in response to Dr. Fenton's question concerning item 212, and because rates paid include costs of transmission to the customer's load center and transformation at the load center to the customer's delivery voltage, the Administration is proposing construction of facilities covered by item 610 which consist of a 12,000-kilovolt-ampere, 115/12.5-kilovolt substation at Vera, Wash., and a 4.5 mile, 115-kilovolt connecting transmission line.

A comparative cost analysis of alternative plans of service has been prepared jointly by the Administration and the customers concerned (the Vera Irrigation District and the Inland Power & Light Co.) to determine the lowest total cost plan of service. This analysis indicates that construction by the Administration of the proposed transmission line and Vera substation is more economical on an overall cost basis and a better engineering plan than for the Administration to install additional transformation at Valley Way substation, with the Inland Power & Light Co. and the Vera Irrigation District construction necessary additional multiple 12.5-kilovolt distribution circuits from this substation to the load center which would be served from the proposed Vera substation.

Actual peak loads for the past winter, 1956–57, were: Vera Irrigation District, 7,280 kilowatts, and Inland Power & Light Co., 3,444 kilowatts, a total of 10,724. This indicates that no change should be made in the forecast that existing facilities serving the Vera Irrigation District and the Inland Light & Power Co., will be overloaded by the winter of 1958–59. The peak loads for 1958–59 are estimated as follows:

Valley Way substation:	*Kilowatts*
Vera Irrigation District	5,650
Inland Power & Light Co	3,115
	8,765

Vera Substation:	Kilowatts
Vera Irrigation District	5,650
Inland Power & Light Co	3,180
Total	8,830
Total for both substations	17,595

Specific developments in the Valley Way-Vera area in the next 2 years include expansion of an existing clay-products plant from a requirement of 300 kilowatts to approximately 2,500 kilowatts and construction of a large housing project.

Mr. FENTON. Bonneville No. 635. Is there any reason why the cooperative should not build this line? Why should not Bonneville build to the edge of this or any other customer service area, and let the customers provide their own facilities within such service area?

Mr. PEARL. We will answer that again. It is a matter of policy.

The matter referred to follows:)

Item 635. Columbia Falls-Trego

The Administration, under previous authorization, is constructing facilities included under item 635 to serve the Lincoln Electric Cooperative at Trego, Mont., because of policies and authorities outlined previously in response to Dr. Fenton's inquiry concerning item 212.

The Lincoln Electric Cooperative, in meeting the requirements of these policies, such as sound engineering, economy, and financial feasibility, is entitled to service to its load center over facilities to be constructed by the Administration, which are repaid through the rates paid for such service.

Mr. FENTON. Bonneville No. 830. With the Bonneville construction program tapering off, it would appear that the proposed replacement may be excessive.

Mr. PEARL. I would like to hear the first part of that again.

Mr. FENTON. If the Bonneville construction program were tapering off, which it appears to be doing, it would seem that the proposed replacement may be excessive.

Mr. CONKLING. You are referring to item 830?

Mr. FENTON. 830a–3–0. What is the need for the third helicopter?

Mr. PEARL. It is not tapering off; no.

HELICOPTER

The helicopter is needed because we have more lines to patrol now and we find it most economical to patrol these with a helicopter. Every year we add miles of transmission that need to be patrolled.

Mr. FENTON. Construction?

Mr. PEARL. Construction money is about constant. It will be, in the few years ahead, based on Federal generation that is coming on the line.

Mr. CONKLING. Do you wish to see the trend in construction?

Mr. FENTON. I remember those figures. Do not bother. It is pretty constant there. It is tapering off in 1958 minus, of course, those lines there. You need a third helicopter now?

Mr. PEARL. Yes, sir; we think that is the economical way to do it.

Mr. FENTON. Do you have many navigators for those helicopters?

Mr. PEARL. No; two pilots.

Mr. FENTON. You only have two crews?

Mr. PEARL. That is right. No spares, two pilots and two observers.

Mr. FENTON. But you only have two crews as I understand it?

Mr. CONKLING. Yes, sir. The schedule for our patrol of transmission lines is the major purpose for which we utilize the helicopters. It is such, because of the growing number of lines on our system which we must patrol, that we have to keep those crews busy patrolling on a steady basis. The requirements for the maintenance of helicopters state that they must be down for overhaul and repair at periodic intervals. We have a third one so as to keep crews busy all the time.

Mr. FENTON. Bonneville No. 840.

PRELIMINARY ENGINEERING STUDIES

With Federal construction tapering off I think there is considerable question as to the responsibility of Bonneville to do so much of this work.

Do you have any answer to that?

Mr. PEARL. Mr. Starr?

Mr. STARR. Yes, sir; I will supply that for the record.

(The matter referred to follows:)

ITEM 840, PRELIMINARY ENGINEERING STUDIES

The amount budgeted for preliminary engineering studies in fiscal year 1958 is $240,000, less than 1 percent of the construction program of $25,142,000. These studies save the Government far more than their cost by clearing the way for immediate action on new construction projects upon approval by the Congress. Construction of the projects can then proceed on an economical, orderly schedule and the work can be completed on schedule. In the absence of preliminary engineering studies it would be necessary in many instances to perform work on a rush basis with expensive temporary construction to provide bare essential additions to existing facilities. In many cases it would be impossible to complete required installations on schedule, existing facilities would become overloaded and expenses of operation and maintenance would rise.

One hundred thousand dollars of the amount requested for preliminary engineering studies is for the Alvey-Wendson and Cougar-Eugene lines (Eugene-Leaburg and Blue River-Cougar sections). These lines will pass through mountainous and very heavily timbered country. Negotiations must be made with owners of the timber for economical logging that will gear with their operations. Heavy rains in the winter slow down construction and high-temperature, low-humidity weather in the summer may completely shut down construction due to the danger of starting forest fires. Valuable time can be saved by performing the engineering studies in advance.

Following is a listing of the items for which preliminary engineering studies are proposed in fiscal year 1958:

Alvey-Wendson line surveys	$53,000
Eugene-Leaburg and Blue River-Cougar sections of the Cougar-Eugene line surveys	47,000
Ice Harbor-Franklin line reconnaissance	2,000
Oroville line and substation reconnaissance	4,000
Springfield substation reconnaissance	2,000
John Day line reconnaissance	10,000
Hills Creek line reconnaissance	2,000
Western Oregon VHF radio investigation	2,000
Keeler-Tillamook line reconnaissance	9,000
Grand Coulee-Waneta line reconnaissance	20,000
Longview-Astoria line reconnaissance	8,000
Extension of Toledo line to Santiam reconnaissance	1,000
Goldendale tie-line reconnaissance	2,000
Maupin tie-line reconnaissance	1,000
Not specifically earmarked [1]	77,000
Total	240,000

[1] Substation site selections, design preliminary to purchase of major materials, and unforeseen items.

REPAYMENT

Mr. FENTON. What repayment of capital investment was made on the Columbia River power system in fiscal year 1956 and what percent of the net investment did it represent? You can supply that for the record.

Mr. RABAUT. Put it in the record later.

Mr. PEARL. Yes.

Mr. FENTON. Was such repayment less than the average annual repayment required by existing law?

Mr. PEARL. We will get that for the record, too.

(The matter referred to follows:)

In fiscal year 1956 the United States Columbia River Power System returned $59,648,122 of cash receipts to the United States Treasury.[1] After repayment of power operation, maintenance, and interest expenses, $24,918,318 remained and was applied to repayment of the capital investment. This capital repayment exceeded the scheduled amount, $21,385,596, by $3,532,723. The total capital repayment of $24,918,318 in 1956 was equal to 2.29 percent of the net power capital investment of $1,086,576,818 as of June 30, 1956. The latter figure excludes unexpended appropriations of $33,709,965 since such sums have not been invested.

For the entire operating period from inception to June 30, 1956, total cash receipts returned to the United States Treasury were $449,689,085.[1] These receipts were applied to repayment of:

Operation and maintenance expenses	$109,810,627
Interest expense	137,702,337
Amortization of capital:	
Scheduled	125,032,739
Excess over schedule	77,143,382
Total amortization	202,176,121
Grand total	449,689,085

The total amortization, i. e., repayment of capital, represented 15.68 percent of the gross power capital investment as of June 30, 1956, exclusive of unexpended appropriations.

COST OF POWER

Mr. FENTON. Is it not true that the present direct sales to major electrochemical industries are being made at considerably less than the cost of delivering power from McNary, Chief Joseph, The Dalles, Ice Harbor, and other Federal plants constructed after Grand Coulee and Bonneville?

Mr. PEARL. Because of the time element, I would like to supply that for the record later. That is a question we discussed many times and we would like to give you a written answer, if it would be all right.

Mr. FENTON. Fine.

(The matter referred to follows:)

The Bonneville Power Administration's wholesale power rates are based on the postage stamp principle. All generation and all costs, including transmission, are pooled because all plants are operated as one integrated power system. Rates are designed to return aggregate costs. In other words, the rates are based on system average costs. It therefore follows that at some individual

[1] Exclusive of $2,103 returned by the Dalles project which was under construction but not in operation in 1956.

generating plants costs per kilowatt-hour will be less than average revenues per kilowatt-hour and at other generating plants the opposite will be true.

Major industries served under the basic rate schedule, C–4, ($17.50 per kilowatt year) pay an average of about 2.10 mills per kilowatt-hour. Present estimates, which are necessarily rough and subject to revision when final costs and allocations become available, indicate that generation costs, plus allowance for transmission costs, will be less than this 2.10 mill rate in the case of the Bonneville, Grand Coulee, and Chief Joseph Dams. These 3 dams will account for about 59 percent (and possibly more if nonfirm energy is included) of total generation when the present 16-dam system is completed. At the other dams, present estimates of average costs, plus transmission, will be more than the 2.10 mills. This discussion is based on "at site" average costs per kilowatt-hour. Such data do not provide for allocation of part of storage projects to downstream plants.

For total sales, revenues average about 2.35 mills per kilowatt-hour. In fiscal year 1956, total system costs were about 2.12 mills. Total cash receipts in 1956 were 2.30 mills per kilowatt-hour and total system payout requirements were about 2.07 mills per kilowatt-hour. Hence, revenues have continued to exceed costs and receipts have been more than payout requirements. Moreover, the average revenue of 2.10 mills from industries served at the C–4 rate exceeds the 1956 payout requirements.

Mr. FENTON. In conclusion, are the private utilities of the Pacific Northwest getting power from Bonneville ahead of the interruptible industrial load? If not, is this in contravention of the provision to operate for the benefit of the general public, particularly of domestic and rural customers?

Mr. PEARL. The answer to that was covered before. They come ahead of industry.

May I ask a question? There are a number of your questions that have been asked, where the same answer will apply. Can we answer those as a group or shall we take each one individually? That is, where policy is involved, the answers that relate to our policy might be answered just once. We will outline the test we apply to determine service and feasibility standards. If it meets our standards, we build; if it does not, they build, or else the item is not built. There are quite a few of them where our policy statement would tell how it is done.

Mr. FENTON. Supply it; just so it is a complete statement. That is all.

Mr. EVINS. I have just a few questions, Mr. Administrator. Many of us on this committee feel that the officials of the Bonneville Power Administration are doing a great job. There is some apprehension or fear that we might weaken a bit and one of the purposes of these hearings is to insure that we do not do that as the years go along.

WHEELING NON-FEDERAL POWER

Did you not request the Budget Bureau for funds for building of 3 transmission lines, 1 to be built for private power use and 2 for public utility districts; is that correct? Did you make an initial request to the Budget Bureau for funds?

Mr. CONKLING. Which are not in our budget?

Mr. EVINS. Yes.

Mr. CONKLING. No, sir; not to my knowledge.

Mr. EVINS. Was there one request withdrawn?

Mr. PEARL. I think he is referring to Cougar, in which case it was deferred for a year.

Mr. EVINS. Three partnership proposal requests for funds were made and one was withdrawn; is that correct?

Mr. CONKLING. I think, sir, I can answer your question.

In our initial preliminary submission to the Bureau of the Budget, we had a line from Alvey over to Wendson. We found that we could meet the same energization date that we had planned in this preliminary submission by considering it as a new start item next year. We do have this item mentioned in our preliminary engineering justification. This is one of the items on which we will expend fiscal year 1958 funds. Preliminary engineering money, that the Doctor just referred to in one of his questions, for fiscal year 1958, is what I mean.

We also had a line from Cougar Dam over to the Eugene area. Again, when we reexamined our schedules, we found out that we could take care of that particular problem, meeting the same energization date, by having the item as a new start next year in 1959. Subsequent to that time, we found out that the cooperative in the area had a very serious service problem that could only be met if we accelerated the construction of a portion of this line. And, with the approval of the Budget Bureau, we reinstated this line, because of the required acceleration, into our 1958 budget and it is now there.

I believe the only other item, the third one, is the Oregon City transformer. Again, reexamination of timing indicated that we could cut it out of 1958 and put it in a later budget.

Mr. EVINS. If the Bonneville Power Administration established a precedent of building these lines for private utility service, then we do not know what ultimate additional requests may come in from year to year. That was the reason for my concern about your action in this area.

For the edification of the committee, let us read page BP–3, paragraph 2, where you say, "Under the policy of comprehensive resources development, the Administration cooperates with the non-Federal utilities * * * for non-Federal plants." New non-Federal plants for which wheeling is contemplated, such as Priest Rapids, Grand Coulee, and the Swift Rapids, are mentioned. The Swift project and the Pacific Power and Light will be in operation in January 1961. The Rocky Reach development of the Chelan Public Utility District is scheduled for initial operation the following year. The Priest Rapids and the Swift projects will increase by 1 million kilowatts in whole or in part over the grid. The Swift project, partnership project, was dropped; is that correct?

Mr. PEARL. That is right.

Mr. EVINS. I think we just want to make it a matter of record as to what was contemplated in this instance for consideration for the future.

RELATIONSHIP WITH PRIVATE UTILITIES

You spoke earlier, Mr. Starr, about our mutually considering these line transmission costs. We all think that is fine to mutually consider them, but the apprehension that I entertained is that after you have considered them, if it is advantageous to the private utilities that they take advantage of it, or if it is disadvantageous to the private utilities, the Government can carry the load; is that about the situation?

Mr. PEARL. The Government carries the load on a reimbursable basis.

Mr. EVINS. In other words, if the deal is not good, the Government picks up the check?

Mr. PEARL. No, it is not costing the Government anything. Our wheeling is based on costs.

Mr. EVINS. You mutually consider the costs and if the private utilities find that it is advantageous to them and their sharp pencil figuring—you must give them credit for that because they have adept and skillful men in their cost study work—you agree to it and they build it?

If it is not so advantageous, then Bonneville Power Administration goes ahead and builds the lines?

Mr. PEARL. It is not disadvantageous to the Government to do that.

Mr. EVINS. It would be less advantageous to them; put it that way. If it is less advantageous, they would not accept the costs and the check?

Mr. PEARL. Our general policy, of course, is to encourage them to build the lines.

Mr. EVINS. I only wanted to urge that the Bonneville Power Administration officials be just as sharp with their pencils as the officials with whom you are mutually considering these matters.

Mr. PEARL. I think that if you ask them, they will agree with you that we are.

Mr. EVINS. I hope you are, and if you are, I commend you.

GROSS REVENUE

Did you testify earlier that your total sales, without details, but in round figures, amounted to $61 million annually?

Mr. PEARL. This last year, fiscal year 1956, our gross revenues were about $61 million.

Mr. EVINS. Your operating costs in round figures were $14 million; is that correct?

Mr. PEARL. That is operating costs for the Bonneville operations and for the dams.

Mr. EVINS. That would leave a net profit or a gross profit, we will say, of $47 million.

For our information, is it your custom to turn all profit funds into the Treasury, or do you retain some of those funds?

Mr. PEARL. We turn them all into the Federal Treasury.

Mr. EVINS. All into the Treasury? And all of the operations of Bonneville Power are from appropriated funds?

Mr. PEARL. That is right.

REPAYMENT

Mr. EVINS. I believe that there is some testimony or report that you are ahead of your schedule of repayment?

Mr. PEARL. That is correct.

Mr. EVINS. In your capital costs?

Mr. PEARL. That is correct; $77 million.

Mr. EVINS. $77 million in advance of schedules for repayment?

Mr. PEARL. Yes.

Mr. EVINS. That is all, Mr. Chairman.

Mr. JENSEN. I think that along with that it would be well to have shown on one page a sort of a financial statement, such as a bank or a business would put out, showing what your business is.

Mr. RABAUT. We will have the clerk take it up with the budget officer and have it in the record.

Mr. JENSEN. You might carry that through later.

(The matter referred to follows:)

COLUMBIA RIVER POWER SYSTEM—CONDENSED FINANCIAL STATEMENTS

The following three financial statements summarize the results of operations and financial status of the commercial power operations of the Federal Government in the Pacific Northwest. Schedule A shows that: (1) In fiscal year 1956 revenues exceeded all costs by nearly $6 million; and (2) for the entire operating history, revenues have exceeded all costs by nearly $99 million.

Schedule B shows that the power system is in good financial condition. The assets, after deduction of depreciation, are well in excess of the investment remaining to be repaid to the United States Treasury.

Schedule C shows that more than $202 million of the capital investment has been repaid. This repayment is more than $77 million in excess of the amount scheduled for repayment to June 30, 1956.

SCHEDULE A.—*Statement of revenue and expense for fiscal year 1956 and cumulative to June 30, 1956* [1]

	Fiscal year 1956		Total to June 30, 1956	
	Amount	Percent of total	Amount	Percent
Operating revenues:				
Sales to aluminum industry	$20,098,110	32.96	$180,946,663	39.10
Other industrial sales [2]	8,186,874	13.42	54,682,216	11.81
Sales to privately owned utilities	11,999,475	19.67	99,319,045	21.46
Sales to publicly owned utilities	19,505,231	31.98	117,815,035	25.46
Miscellaneous	1,202,933	1.97	10,042,933	2.17
Total revenues	60,992,623	100.00	462,805,892	100.00
Expenses:				
Operation, maintenance, etc	14,811,937	24.29	125,010,270	27.01
Provision for depreciation	18,539,972	30.40	101,347,677	21.90
Interest on the Federal investment [3]	21,691,302	35.56	137,702,338	29.75
Total expenses	55,043,211	90.25	364,060,285	78.66
Net revenues	5,949,412	9.75	98,745,607	21.34

[1] Data include generation projects and the transmission system, but exclude nonpower operations.
[2] Includes Federal agencies.
[3] Exclusive of interest capitalized during construction.

SCHEDULE B.—*Combined condensed balance sheet* [1]

ASSETS

Electric plant (stated at original cost) [2]	$1,277,289,050
Less: Reserve for depreciation	94,236,032
Original cost less reserve	1,183,053,018
Current assets (unexpended appropriations, accounts receivable, materials and supplies, etc.)	50,693,306
Deferred charges, special funds, etc	1,961,364
Total assets	1,235,707,688

LIABILITIES AND OTHER CREDITS

Net investment of the U. S. Government. (See schedule C.) [3]	1,120,286,783
Current liabilities (accounts payable, etc.)	15,456,807
Reserves and other credits	1,218,491
Accumulated net revenues [4]	98,745,607
Total liabilities and other credits	1,235,707,688

[1] This statement includes all amounts allocated to commercial power operations for all projects in operation.
[2] Consists of costs of dams, reservoirs, powerplants, etc., allocated to power plus the transmission system.
[3] Represents the amount of power capital investment remaining to be paid, with interest.
[4] This is the amount by which revenues have exceeded power expenses (operation, maintenance, depreciation, and interest).

SCHEDULE C.—*Status of repayment of power capital investment (operating projects only)*

Projects	Power capital investment [1]	Repaid as of June 30, 1956			
		Scheduled amount	Excess over schedule	Total repaid	
				Amount	Percent [2]
Bonneville Power Administration	$412,098,423	$49,869,000	$53,728,391	$103,597,391	25.14
Bonneville Dam	59,839,067	12,708,000	11,954,894	24,662,894	41.22
Columbia Basin (Grand Coulee)	207,000,732	51,972,069		51,972,069	25.11
Hungry Horse	87,502,575	3,322,000	1,461,408	4,783,408	5.47
Albeni Falls	30,549,396	627,000	14,061	641,061	2.10
McNary	272,972,262	3,987,000	8,856,739	12,843,739	4.71
Detroit-Big Cliff	41,905,270	1,378,000	666,687	2,044,687	4.88
Lookout Point-Dexter	41,542,590	651,000	402,352	1,053,352	2.54
Chief Joseph	131,848,105	397,000	58,850	455,850	.35
Chandler	3,494,519	121,670		121,670	3.48
Total	1,288,752,939	125,032,739	77,143,382	202,176,121	15.68

[1] Excludes unexpended appropriations, $33,709,965, which have not been invested.
[2] The percentage repaid is small for all except the first 3 projects listed because except for those 3, the projects have been in operation only 1 to 3 years as of June 30, 1956. In fact, McNary and Chief Joseph were only partially in operation in 1956.

Operation and Maintenance

Program and financing

	1956 actual	1957 estimate	1958 estimate
Operations by activities:			
1. System operation and maintenance	$5,867,806	$6,637,000	$7,563,000
2. Power contracts and rates	316,009	274,000	290,000
3. General administration	650,844	684,000	777,000
Total program costs	6,834,659	7,595,000	8,630,000
4. Relation of costs to obligations: Costs financed from obligations of other years, net (−)	−62,832		
Total program (obligations)	6,771,827	7,595,000	8,630,000
Financing: Unobligated balance no longer available	3,173		
Appropriation	6,775,000	7,595,000	8,630,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
Total number of permanent positions	908	960	1,026
Full-time equivalent of all other positions	15	15	16
Average number of all employees	868	939	1,010
Number of employees at end of year	990	1,035	1,100
Average salaries and grades:			
General schedule grades:			
Average salary	$5,685	$5,817	$5,875
Average grade	GS–7.9	GS–8.0	GS–8.0
Ungraded positions: Average salary	$5,724	$5,701	$5,703
01 Personal services:			
Permanent positions	$4,744,921	$5,332,800	$5,776,200
Positions other than permanent	80,059	86,600	90,000
Regular pay above 52-week base	14,645		17,900
Payment above basic rates	165,148	171,300	147,800
Excess of annual leave earned over leave taken	53,357	71,200	53,600
Total personal services	5,058,130	5,661,900	6,085,500
02 Travel	169,324	194,800	202,500
03 Transportation of things	31,277	32,200	31,500
04 Communication services	174,041	189,000	210,000
05 Rents and utility services	74,872	87,700	91,900
06 Printing and reproduction	3,618	3,000	3,000
07 Other contractual services	223,106	264,400	291,600
Services performed by other accounts	632,424	707,400	830,500
08 Supplies and materials	392,933	429,800	499,500
11 Grants, subsidies, and contributions	4,098	4,600	4,700
Contribution to retirement fund			365,000
13 Refunds, awards, and indemnities	8,004	20,200	14,300
Total obligations	6,771,827	7,595,000	8,630,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$6,775,000	$7,595,000	$8,630,000
Obligated balance brought forward	101,762	31,445	31,445
Total budget authorizations available	6,876,762	7,626,445	8,661,445
EXPENDITURE AND BALANCES			
Expenditures—			
Out of current authorizations	6,741,505	7,565,000	8,600,000
Out of prior authorizations	93,154	30,000	30,000
Total expenditures	6,834,659	7,595,000	8,630,000
Balance no longer available:			
Unobligated (expiring for obligation)	3,173		
Other	7,485		
Obligated balance carried forward	31,445	31,445	31,445
Total expenditures and balances	6,876,762	7,626,445	8,661,445

JUSTIFICATION OF INCREASES

Mr. RABAUT. We will take up "Operation and maintenance," and insert pages 107 through 114 into the record. You are requesting some increases in this appropriation. Please briefly explain them. You can do it for the record.

(The matter referred to follows:)

ANALYSIS OF ADJUSTED APPROPRIATION

Operation and maintenance

Activity	Total available, 1957 (1)	Increase in base due to Government's contribution to the retirement fund (2)	Adjusted appropriation (3)
1. System operation and maintenance	$6,637,000	$309,000	$6,946,000
2. Power contracts and rates	274,000	16,000	290,000
3. General administration	684,000	40,000	724,000
Total	7,595,000	365,000	7,960,000

Analysis by activities

Activities	Adjusted Appropriation	Decreases	Base 1958	Estimate 1958	Increases	Page reference	
						Table	Justification
1. System operation and maintenance	$6,946,000		$6,946,000	$7,563,000	$617,000	BP114	BP114
2. Power contracts and rates	290,000		290,000	290,000			BP128
3. General administration	724,000		724,000	777,000	53,000	BP129	BP129
Total	7,960,000		7,960,000	8,630,000	670,000		

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. System operation and maintenance	$5,867,806	$6,637,000	$7,563,000
2. Power contracts and rates	316,009	274,000	290,000
3. General administration	650,844	684,000	777,000
Total costs	6,834,659	7,595,000	8,630,000
4. Relation of costs to obligations: Costs financed from obligations of other years, net (−)	−62,832		
Total obligations	6,771,827	7,595,000	8,630,000
Financing: Unobligated balance no longer available	3,173		
Appropriation	6,775,000	7,595,000	8,630,000

Relation of costs to obligations

	1955 actual	1956 actual	1957 estimate	1958 estimate
Selected resources at end of year: Undelivered orders (appropriation blances obligated for goods and services on order not yet delivered)	$101,762	$31,445	$31,445	$31,445
Selected resources at start of year (−)		−101,762	−31,445	−31,445
Adjustments of selected resources reported at start of year		7,485		
Costs financed from obligations of other years, net (−)		−62,832		

EXPLANATION OF RELATIONSHIP OF PROGRAM COST TO OBLIGATIONS

This is the first year that the amounts shown in the President's budget for activities to be carried out under appropriations to the Bonneville Power Administration are reflected on a cost basis. In past years these amounts have been reflected on an obligation basis. To readily identify the difference between the 2 approaches the 2 terms are defined:

Obligations represent goods and services ordered without regard to when delivered, paid for, or used.

Costs represent the amount of goods and services used regardless of when ordered, delivered, or paid.

Obligations incurred become a commitment against available funds and serve as a basis of fund control to avoid violation of the Antideficiency Act, whereas costs reflect a measurement of physical accomplishment by showing (without regard to whether payment has been made) the amount of personal services, supplies, equipment use, etc. that has been applied to a given job.

The program and performance statements in the President's budget show the total program costs with a line-item adjustment to arrive at obligations. This line-item adjustment normally entitled "Increase or decrease in selected resources" applies to the net increases or decreases between year-end balances in undelivered orders and similar items.

A net increase in the year-end balances of undelivered orders will result in obligations incurred being larger than costs. This is true because current year obligational authority has been used for orders to be costed in future years. On the other hand, a net decrease in the year-end balances of undelivered orders will result in costs being larger than obligations incurred. This is true, because the resources which have been included in costs for the current year were actually obligated against funds available in prior years.

JUSTIFICATION

Operation and maintenance $8,630,000

For fiscal year 1958, the estimates of the Bonneville Power Administration for operation and maintenance of the transmission system, power contracts, rates and general administrative activities total $8,630,000. The estimates will provide for reliable operation, maintenance in accordance with good utility

practice, the handling of commercial relations with customers, and effective management. This amount includes $365,000 for civil service retirement costs budgeted for the first time in fiscal year 1958.

	Fiscal year 1957 adjusted appropriation		Fiscal year 1958		Requested increase fiscal year 1957 to 1958		
	Estimate	Percent of total	Request	Percent of total	Amount of increase	Percent increase	Percent of total increase
1. System operation and maintenance	$6,946,000	87.3	$7,563,000	87.6	$617,000	8.9	92.1
(a) System operation	2,620,000	32.9	2,774,700	32.2	154,700	5.9	23.1
(b) System maintenance	3,569,900	44.9	4,016,200	46.5	446,300	12.5	66.6
(c) Power resources and requirements	210,700	2.6	215,900	2.5	5,200	2.5	.8
(d) General services and supervision	545,400	6.9	556,200	6.4	10,800	2.0	1.6
2. Power contracts and rates	290,000	3.6	290,000	3.4			
3. General administration	724,000	9.1	777,000	9.0	53,000	7.3	7.9
(a) Administration	156,900	2.0	159,100	1.8	2,200	1.4	.3
(b) Personnel	76,900	1.0	86,000	1.0	9,100	11.8	1.4
(c) Administrative services	180,000	2.2	195,500	2.3	15,500	8.6	2.3
(d) Fiscal services	206,700	2.6	221,500	2.6	14,800	7.2	2.2
(e) Budget and management	45,200	.6	47,500	.5	2,300	5.1	.3
(f) General services	58,300	.7	67,400	.8	9,100	15.6	1.4
Total	7,960,000	100.0	8,630,000	100.0	670,000	8.4	100.0

FISCAL YEAR 1958

It will be noted from the above table that the bulk of the administration's fiscal year 1958 operation and maintenance dollar, 87.6 percent, is to be utilized for the direct operation and maintenance of the Government's transmission system. Another 3.4 percent is earmarked for power contract and rate work, which covers commercial activities adjunct to the sale and exchange of power. Only 9 percent of the operation and maintenance dollar will be expended for general administration. This results from the administration's continuing efforts to hold down to the absolute minimum its expenses for overhead or housekeeping types of work.

Requested increases from fiscal year 1957 reflect this same emphasis. Of the total requested increase of $670,000, $617,000, or 92.1 percent, is for direct operation and maintenance. No increase is requested for power contracts and rates. The requested increase for general administration is $53,000, or 7.9 percent of the total increase.

FISCAL YEARS 1957 AND 1958 COMPARED

A comparison of the distribution of the operation and maintenance dollar by activities in fiscal years 1957 and 1958 further illustrates this emphasis. While the percentage differences are small, nevertheless they indicate that the cost trends are in the right direction; 87.6 percent of the operation and maintenance dollar will be expended for direct operation and maintenance in fiscal year 1958 as companed with 87.3 percent in fiscal year 1957. This somewhat larger share of the operation and maintenance dollar which will be devoted to direct operation and maintenance is offset by decreases in the other 2 activities, 3.4 percent of the fiscal year 1958 dollar being allocated to power contracts and rates as compared with 3.6 percent in fiscal year 1957, and 9 percent being allocated for general administration in fiscal year 1958 as compared with 9.1 percent in fiscal year 1957.

REASONS FOR INCREASES

Detailed explanations for increases requested in fiscal year 1958 are given in the discussions under each activity. However, the increases are necessary basically because new Government generation is coming into production in the Northwest, bringing with it an increased workload for the administration; new lines and substations and additions to existing lines and substations which must be operated and maintained to bring to locations of delivery the added power output.

Other factors, of course, also contribute to the need for increased operating funds. As the Federal generating system grows from the basic 2-plant Bonneville-Grand Coulee combination to the 16-plant group which presently is under construction, the integration of the plants becomes more complicated and more staff attention must be devoted to assuring the greatest efficiency in the utilization of water and installed generating capacity. Similarly, for example, more staff attention must be given to power scheduling, streamflow forecasting, problems of relaying, and line and substation operating controls.

The comprehensive approach to the development by non-Federal utilities of new power sources in the Northwest brings its own special workload. The Bonneville Power Administration's staff must actively assist interested groups and prospective partners in the planning and highly technical studies which must precede and accompany the construction and operation of new generating plants, for such plants are being coordinated with the Federal generating system and transmission facilities are being integrated also.

In an expanding system, general administrative work might be expected to increase by a small amount to keep the adjunct services in balance with operating functions. In fiscal year 1958, however, no increases in staff for general administrative work from fiscal year 1957 are proposed. The increases in fund requirements for this activity result from the staff devoting a higher proportion of its time to operation and maintenance and less to construction.

The following table lists some general indices of the increasing magnitude of the administration's workload:

	Fiscal year				
	Actual		Estimated		Percent increase 1957 to 1958
	1955	1956	1957	1958	
Operation and maintenance requirements	$6,216,869	$6,771,827	[1] $7,960,000	$8,630,000	8.4
Substations [2]	158	174	178	185	
Transformer capacity (kilovolt-amperes): [2]					
230 kilovolts and lower	6,153,000	6,937,000	7,609,000	9,195,000	20.8
230/287 and 230/345 kilovolts		400,000	400,000	1,600,000	
Transmission lines (structure miles) [2]	6,035	6,320	6,730	6,873	2.1
Electric plant in service [3]	$307,476,000	$344,217,000	$378,515,000	$410,903,000	8.6
Points of delivery [2]	307	330	331	346	
Energy sales (millions of kilowatt hours)	21,828	25,974	28,800	31,600	9.7
Revenues (BPA only)	$51,978,055	$60,833,997	$67,500,000	$74,400,000	10.2
Generating plants in operation [3]	6	9	11	11	
Generating capacity (peaking kilowatts) [2]	3,674,700	4,184,600	4,829,300	5,431,900	12.5

[1] Adjusted to include $365,000 for retirement contribution initiated in fiscal year 1958.
[2] Beginning of year.
[3] Average over year.

1. System operation and maintenance, $7,563,000 (obligations)

Activities	Adjusted appropriation	Decreases	Base, 1958	Estimate, 1958	Increases	Page reference	
						Table	Justification
(a) System operation	$2,620,000		$2,620,000	$2,774,700	$154,700		BP114.
(b) System maintenance	3,569,900		3,569,900	4,016,200	446,300	BP117	BP118.
(c) Power resources and requirements.	210,700		210,700	215,900	5,200		BP126.
(d) General services and supervision.	545,400		545,400	556,200	10,800		BP127.
Total	6,946,000		6,946,000	7,563,000	617,000		

(a) System operation, $2,774,700 (obligations)

Summary and fund requirements.—$2,774,700 is requested in fiscal year 1958 for the operation of the Administration's transmission system. This is an increase of $154,700 over the operating base. This increase is needed (1) to operate new substations, (2) to schedule and dispatch additional electrical energy, and (3) to provide substation operator apprentices to meet future operator requirements and to offset operator losses resulting from personnel attrition.

Activities covered.—Operations activities include the determination of BPA and power pool operating plans, power scheduling and dispatching, operation of substations, and custodial and groundskeeping tasks at substations.

Funds are used for personnel, travel between substations, and expenses in connection with operating agreements and leases of facilities. One hundred and forty-four BPA substations are operated entirely or in part by customers under operating agreements, the bulk of which involve little or no cost to the Administration. To avoid duplication of facilities, or where it is more economical, the Administration leases from other utilities power facilities, principally transmission lines, for delivery or receipt of power.

OPERATION AND MAINTENANCE PROGRAM

The following discussion will supplement Dr. Pearl's opening statement concerning the administration's operation and maintenance program for fiscal year 1958. The requirements of this program are determined entirely upon a measurable workload. For instance, needs for operation of substations are based upon levels of individual manning at individual stations, taking into consideration importance, type, and number of installed facilities, transformer capacity, voltage, and relation to the system. These levels of manning thus permit the calculation of operators' salaries for the year, to which are added the incidental expenses associated with their work. In fiscal year 1958, 185 stations will be operated in contrast to 178 for the preceding year.

Another item included as an operational cost is that of leasing lines of other utilities for transmittal of energy to the administration's customers. These leasing costs are based upon the amount of energy transmitted and calculated for each line used for this purpose. Because of increased energy deliveries, $173,292 are needed in fiscal year 1958 in comparison with $167,224 for the past year.

Maintenance requirements are based upon established frequencies of maintenance of individual items of equipment and known man hours required for such maintenance. Number of miles of line to be patrolled, acres of brush to be controlled, oil circuit breakers, transformers, disconnect switches, meters, relays, radio stations, microwave units, and buildings to be maintained in any given year may be readily determined by the application of frequencies of maintenance. With the exception of building maintenance, the product of the number of units to be maintained and man hours for this maintenance and hourly costs of labor will result in "on the job" costs for such maintenance. To these costs are added those incidental items such as travel, replacement or repair materials, and other job expenses. The resulting sum indicates requirements for direct maintenance of the electrical system.

The maintenance requirements for buildings are treated in a similar manner, in that such tasks as painting and roof repair are determined by individual needs of each building and totaled into an overall building maintenance program.

Any increase in requirements, therefore, is based upon additional facilities which are maintained in accordance with established frequencies that have been

unchanged for the past 4 years. Specific examples of increases in units to be maintained to illustrate the increase in requirements appear in the following tabulation:

Function	Units	
	Fiscal year 1957	Fiscal year 1958
Transmission line maintenance: Circuit miles	7,194	7,338
Substation maintenance:		
Substations	178	185
Transformers	833	927
Circuit breakers	801	853
Meter and relay maintenance:		
Demand meters	573	613
Telemeters	231	335
Distance relays	328	355
Overcurrent relays	593	648
Communication maintenance:		
Fixed radio stations	106	124
Supervisory controls	107	227
Building and grounds maintenance: Buildings	534	563

As generating plants are added to the system or capacities of existing plants increased, the workload of scheduling and dispatching and operational studies becomes greater. For instance, in the 1958 fiscal year the peaking capacity of generating plants is 5,431,900 kilowatts in comparison to 4,829,300 kilowatts for the 1957 fiscal year, and the points of delivery, 346 and 331, respectively. Similarly, work associated with power resources and requirements is influenced by the amount of energy available to meet customer requirements. No additional funds have been requested for the work associated with contracts and rates, as these tasks, although increasing somewhat, can be handled by the present staff.

Because of the added emphasis being placed upon operation and maintenance work in contrast to construction work, the costs of general administration must be applied in greater proportion to operation and maintenance expense, even though there is no increase in the number of people included in this category of general administration.

In summary, it might be well to repeat the tabulation which appears in the Administration's budget document on page BP113 which shows comparative requirements and the broader units of workload measurements upon which operation and maintenance activities are based for the fiscal year 1955 through 1958.

	Fiscal year				
	Actual		Estimated		Percent increase 1957 to 1958
	1955	1956	1957	1958	
Operation and maintenance requirements	$6,216,869	$6,771,827	$7,960,000	[1] $8,630,000	8.4
Substations [2]	158	174	178	185	3.9
Transformer capacity (kilovolt-amperes): [2]					
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230/287 and 230/345 kilovolts	400,000	400,000	400,000	1,600,000	300.0
Transmission lines (structure miles) [2]	6,035	6,320	6,730	6,873	2.1
Electric plant in service [2]	$307,476,000	$344,217,000	$378,515,000	$410,903,000	8.6
Points of delivery [2]	307	330	331	346	4.5
Energy sales (millions of kilowatt-hours)	21,828	25,974	28,800	31,600	9.7
Revenues (BPA only)	$51,978,055	$60,833,997	$67,500,000	$74,400,000	10.2
Generating plants in operation [2]	6	9	11	11	0
Generating capacity (peaking kilowatts) [2]	3,674,700	4,184,600	4,829,300	5,431,900	12.5

[1] Adjusted to include $365,000 for retirement contribution initiated in fiscal year 1958.
[2] Beginning of year.
[3] Average over year.

CONTINUING FUND

Mr. RABAUT. We will insert pages 132 through 136 into the record at this point.

(The matter referred to follows:)

BONNEVILLE POWER ADMINISTRATION

Continuing fund for emergency expenses

Appropriated, 1957	$188,100
Estimate, 1958	
Decrease	188,100

JUSTIFICATION

A continuing fund of $500,000, maintained from power receipts, is used to defray expenses incurred under emergency conditions and to insure continuous operation of the Bonneville Power Administration transmission system.

During the fiscal year 1956 approval was obtained from the Office of the Secretary of the Interior for use of this fund for the following work. Amounts shown are estimates:

1. To repair damage to the Bonneville Power Administration's transmission system resulting from unusual storm conditions during the wniter of 1955–56	$173,100
2. To replace a transformer that failed in service at the Bonneville Power Administration's McNary substation, May 27, 1956	15,000
Total	188,100

The above work was started during the last half of the fiscal year 1956 and will be completed during the fiscal year 1957. No other expenditures have been estimated against these funds, since use of this fund cannot be scheduled in advance of actual requirements because of its emergency character.

Itemization of estimate

	Estimate, 1957	Estimate, 1958	Increase (+) or decrease (−)
Program and financing:			
Total obligations	$103,858		−$103,858
Unobligated balance brought forward	−415,758	−$500,000	−84,242
Unobligated balance carried forward	500,000	500,000	
Appropriation	188,100		−188,100
Obligations by objects:			
07 Other contractual services	103,858		−103,858

Construction of electric transmission lines and substations, contributions

Appropriated, 1957	$300,000
Estimated, 1958	
Decrease	300,000

JUSTIFICATION

Since 1948, the Bonneville Power Administration has received from its customers funds to provide facilities which are not provided by the Administration under its customer service policy and for facilities needed immediately for which funds were not currently appropriated. Also, non-Federal governmental groups advance funds for relocating facilities of the administration as required for highway construction and other purposes. Following is a listing of amounts

which have been received or on which agreements have been made, and against which expenditures are anticipated during fiscal years 1957 and 1958.

Customer	Purpose	Amount
Amounts on deposit June 30, 1956:		
Harvey Machine Co	Relocation of The Dalles-Goldendale transmission line.	$20,300
Do	Construction of transmission facilities to the company's plant at The Dalles, Oreg.	131,110
Kaiser Aluminum & Chemical Corp	3d feeder position at Tacoma substation	2,500
Oregon State Highway Commission	Replacement of structure 18/12 on Vancouver-Eugene transmission lines No. 1 and No. 2.	4,700
Do	Replace structures on Pendleton-La Grande line.	31,300
Portland General Electric Co	3d feeder at Chemawa substation	24,000
Puget Sound Power & Light Co	2d feeder position at Olympia	55,600
Do	Provide a 2d interconnection at Bellingham substation.	57,000
Washington State Highway Commission	Replacement of structure 7/6 on Snohomish-Arlington transmission line.	1,330
Do	Construct flangeways at crossing of Columbia substation railroad spur track.	800
Do	Replace towers on the McNary-Ross and McNary-Big Eddy transmission lines.	35,400
Do	Replace and relocate towers on the Covington-Grand Coulee transmission lines.	13,800
Do	Relocation of Spokane-Hot Springs line	255,686
Total amount on deposit		633,526
Actual and anticipated deposits based on subsequent agreements:		
Harvey Machine Co	Construction of transmission facilities to the Company's plant at The Dalles, Oregon.	185,000
Klickitat County PUD	Relocation of Goldendale substation	25,000
Portland General Electric Co	Second feeder at Keeler substation	41,500
Washington State Highway Commission	Relocation of facilities to accommodate highway construction.	48,500
Total actual and anticipated deposits		300,000
Total budget authorizations		933,526

Because this method of financing work results from emergencies, it is not possible to estimate beyond agreements presently negotiated or under current consideration.

Contributions

Mr. Rabaut. Briefly explain the arrangements under which you perform work for others which is covered by contributions as shown on pages 134 through 136. You can do that for the record.

(The matter referred to follows:)

Work done for others under trust fund agreements

Work may be done for others with trust funds when the proposed work is not a part of the Administration's current program. The work consists primarily of relocations of the Administration's transmission lines where highways are being built, and installations of equipment at the Administration's substations for the benefit of customers. It is to the advantage of the Government to perform this work since it involves alterations to Government property. Under a trust fund agreement the requesting agency must deposit an amount equal to the estimated cost of the proposed work in a trust fund from which the Government draws to cover its expenses. If expenses are greater than the estimate, the requesting agency adds the necessary amount to the trust fund.

Mr. Rabaut. What is your authority in law for this work? Would you please submit that for the record? How many people will be involved in this work in 1958 and out of what funds are they paid? You can supply that for the record:

(The matter referred to follows:)

AUTHORITY FOR WORK DONE FOR OTHERS UNDER TRUST FUND AGREEMENTS

The statutory authority for this work is the act of August 20, 1937, as amended, sections 2 (f) and 9 (b) (59 Stat. 546, 50 Stat. 736, 16 U. S. C. 832a, 16 U. S. C. 832h), and act of June 26, 1934, as amended, section 20 (48 Stat. 1233, 31 U. S. C. 725s).

An average of approximately 10 persons from several different parts of the organization will be assigned to this type of work in fiscal year 1958. The cost of their services will be paid from the trust funds.

LANGUAGE CHANGES

Mr. RABAUT. Are there any questions?

We will insert in the record at this point an explanation of the language changes proposed by Bonneville Power Administration.

(The matter referred to follows:)

BONNEVILLE POWER ADMINISTRATION

ADMINISTRATIVE PROVISIONS

1. Authorization for the purchase of 18 passenger motor vehicles for replacement only

After the President's budget for the fiscal year 1958 was prepared and transmitted to the Congress, the Administrator, General Services Administration, on February 18, 1957, made a determination that it is advantageous to the Government to establish in the Portland-Vancouver area a centrally operated interagency motor pool system to serve the needs of the Federal agencies in that area. Since the Bonneville Power Administration is one of the agencies that will participate in the motor pool, the request for authorization to purchase 18 passenger motor vehicles is no longer needed and should be deleted from the bill.

2. Authorization for the purchase of one aircraft

The Bonneville Power Administration currently owns two helicopters and a quick-change kit, which is composed of the basic operating parts of a helicopter. It is proposed to acquire another helicopter through the purchase of the required components to supplement the presently owned quick-change kit. This will give the Administration three helicopters for routine and emergency line patrol, as well as for reconnaissance in connection with the preliminary location of new lines. Routine patrols are scheduled so that complete system coverage is obtained every 6 weeks. Due to the actual and planned increase of 960 miles of transmission lines from fiscal years 1955 to 1958, this standard cannot be maintained with presently owned equipment, consisting of 2 helicopters and a quick-change kit. No additional flight personnel is anticipated. The third ship will be used as a spare and pressed into service when either of the other ships is being overhauled in accordance with Civil Aeronautics Administration regulations, thus increasing utilization of personnel presently employed.

Aircraft to be purchased		Aircraft to be exchanged	Net cost	Old aircraft still to be used
Number	Gross cost			
1	$22,000	----------	$22,000	2

SOUTHWESTERN POWER ADMINISTRATION

MONDAY, MAY 6, 1957.

WITNESSES

DOUGLAS G. WRIGHT, ADMINISTRATOR
H. A. HEWETT, ASSISTANT ADMINISTRATOR
NEIL ADAMS, CHIEF, DIVISION OF RATES AND CUSTOMER SERVICES
O. L. IHRIG, CHIEF, BRANCH OF BUDGET AND FINANCE

Mr. CANNON. The committee will be in order.

We have with us this morning representatives from the Southwestern Power Administration. Mr. Douglas G. Wright, the Administrator, is with us. Mr. Wright, do you have a statement?

Mr. WRIGHT. Yes, Mr. Chairman, I do.

Mr. CANNON. We will be glad to hear it at this time.

GENERAL STATEMENT

Mr. WRIGHT. Mr. Chairman and gentlemen of the committee, the budget estimate of the Southwestern Power Administration for its total program in the fiscal year 1958, is $7,525,000.

The budget estimate for construction is $1,480,000, which includes construction of transmission facilities to interconnect Table Rock Dam with existing facilities at Springfield, Mo., customer connections; acquisition of equipment for delivery of power in emergencies, or pending installation of permanent facilities, and acquisition of general plant and equipment.

The budget estimate for operation and maintenance is $1,045,000, which will enable the Administration to operate and maintain its transmission system, carry on power-marketing negotiations, provide customer services, and administer contracts between the Administration and certain generation and transmission cooperatives.

The budget estimate for the continuing fund is $5 million, and is requested for the purchase of power and service or wheeling charges, and for the leasing of transmission capacity under contractual agreements with certain generation and transmission cooperatives.

With the committee's permission I would like to discuss some of the phases and details of the overall program, and also submit supporting data concerning same.

Mr. CANNON. We shall be glad to have you elaborate on this, Mr. Wright.

Mr. WRIGHT. Mr. Chairman, I have always looked upon the committee as the Board of Directors of the Southwestern Power Administration and the action of Congress the result of our report to the Board of Directors. Therefore, I consider that you are interested in a number of things. The first of those would be what we have done with the money you have provided us with in the past.

CONSTRUCTION

I would like to put in the record a very brief summary of what has been done with all of the construction appropriations ever made to the Southwestern Power Administration. It is a very brief tabulation.

Mr. CANNON. It will be included in the record at this point.
(The matter referred to follows:)

Construction appropriations (net) fiscal years 1947 through 1957

Fiscal year		*Amount*
Appropriations 1947–57		$27, 120, 000
1950: Operation and maintenance savings, transferred to and merged with construction appropriation		257, 913
Adjusted appropriations		27, 377, 913
Less:		
1947–48: Appropriation expired for expenditure	$248, 831	
1954: Rescinded, Public Law 172, title V	1, 264, 300	
1955: Transferred to O. and M., Public Law 465, title I	775, 000	
1956: Returned to Treasury, administrative action	189, 612	
		2, 477, 743
Net appropriations		24, 900, 170

Mr. CANNON. Go ahead.

Mr. WRIGHT. This shows that we have had appropriated to us for construction of "Transmission facilities" $27,377,913. Of this we have expended for "Transmission facilities" $24,900,170 and returned to the Treasury or transferred to other appropriations $2,477,743, which represented savings in the estimates we presented to you, and our Administration has never asked for a supplemental appropriation to complete any construction.

TOTAL SAVINGS EFFECTED

Mr. CANNON. What is the total amount of savings?

Mr. WRIGHT. $2,477,743, and they have all been returned to the Treasury or returned to the Department for other uses as indicated in that tabulation, sir. That is over our entire history of construction.

I would like to place in the record a brief tabulation showing the total money that has been appropriated to the Southwestern Power Administration for "Operation and maintenance:" what has been expended; what has been done with the unexpended balance. This tabulation indicates that we have been appropriated $10,781,712. We have expended $8,622,590, and have had an unexpended balance of $2,159,122. There has been returned to the Treasury a savings of $1,237,773; transferred to our construction appropriation by the Congress $257,913; $58,000 transferred to the Department of Defense activities; $61,500 to the Office of the Solicitor; $290,234 to Geological Survey; $4,418 to Bonneville Administration and the unobligated balance of $249,284 will be returned to the Treasury as it expires for expenditure.

OPERATION AND MAINTENANCE

I would like to place in the record a tabulation of last year's appropriation which is not included in the previous tabulation.

Mr. CANNON. It will be included in the record at this point.

(The matter referred to follows:)

Operation and maintenance appropriations, expenditures and unexpended balances, fiscal years 1944 through 1956

Fiscal year	Appropriation	Expenditures	Unexpended balance
1944 through 1954 appropriations	$6,591,712	$5,038,026	$1,553,686
1955 appropriation	2,165,000		
Transfer of funds	775,000		
Total	2,940,000	2,549,778	390,222
1956 appropriation	1,250,000	1,034,786	215,214
Total	10,781,712	8,622,590	2,159,122

Distribution of the unexpended balance is as follows:

Returned to Treasury	$1,237,773
Transferred to:	
Construction appropriation	257,913
Defense activities	58,000
Solicitor	61,500
Geological Survey	290,234
Bonneville Power Administration	4,418
Unobligated portion of this balance to be returned to Treasury as it expires for expenditures	249,284
Total	2,159,122

Mr. CANNON. You may continue.

Mr. WRIGHT. Last year we had a carryover balance of $1,052,108 from "Construction." We asked for no construction funds last year, that was on construction that was underway. It has been expended and will be completely utilized. You gave us $1 million for "Maintenance and operation" last year and we have placed in reserve $100,000 of this, expecting to return to the Treasury a savings of $100,000 out of the $1 million appropriated last year.

You permitted an upper limit on the continuing fund of $6,400,000 last year. Our present estimates indicate we will spend $5,200,000 and there will be an estimated saving of $1,200,000 out of the "Continuing fund" appropriation.

Mr. CANNON. You have saved and returned to the Treasury in "Construction" appropriations $2,477,743 and in your "Operation and maintenance" appropriations, how much?

Mr. WRIGHT. $2,159,122 has been saved, as far as we are concerned.

Mr. CANNON. There was $1,237,773 returned to the Treasury plus $249,284. That is a total of $1,259,122, as you say. On operation and maintenance last year you returned $100,000.

In view of the fact that we were a little bit on the generous side last year, Mr. Wright, is it possible that we are making the same error in your 1958 budget?

Mr. WRIGHT. No, sir; Mr. Chairman. You will notice that our request is for the same $1 million that we had last year, plus only $45,000 for additional retirement costs for the Government's participation in retirement. The budget request must necessarily be based in power operations upon any expected operation or hazard that you may have.

I present these figures to the committee primarily to indicate to you that we will operate as cheaply as we can in the Southwest. If

there can be a savings made, we will make it even though the appropriation might be available for us to spend.

MANPOWER SHORTAGE

We have additional commitments of maintenance and operation over those we carried out last year. Part of our difficulty has been manpower, and we have not been able to secure the men to do some of the things that need to be done and must be done as soon as we can get them.

Mr. CANNON. Technicians or executives?

Mr. WRIGHT. I mean engineers and technical people. They are very, very difficult to obtain. We, and no company, in our immediate area last year, could secure a single graduate from the Oklahoma A. and M. Engineering School. They were all spoken for by other companies, although we tried desperately to do so.

Mr. CANNON. Are those being requisitioned by private companies or by Government?

Mr. WRIGHT. Private companies.

Mr. CANNON. How do you account for this rather sudden, and, I take it, rather unexpected, shortage in qualified men?

Mr. WRIGHT. Because of the increasing difficulty of engineering courses, because of engineering advances, less and less students are staying with engineering courses to graduation and, in addition, this is due to increased complexity of everything that we use. It is getting so that you have to be an electronic expert to fix a toaster. That is the thing that is creating this situation. The present estimates are that this country needs 50,000 engineers a year, and it is graduating about 22,000. I suspect that an engineering graduate from any school will have from 50 to 150 offers of jobs prior to the time he graduates today.

Mr. CANNON. Are salaries and compensation increasing in proportion to the increased demand?

Mr. WRIGHT. Yes, they certainly are. In addition to that, there is a certain amount of salary bidding that goes on for these technical services.

Mr. CANNON. Proceed.

Mr. WRIGHT. That is what we have done with the money you gave us. That is what we have done with the money Congress gave us, Mr. Chairman. We feel that our record is one that we can point to with a certain amount of humble pride. We have been lucky in a number of ways, and we have never had to come back and ask you for a supplemental appropriation, of which we are proud. We point out to you that we have returned to the Treasury every nickel that we did not need as soon as it was found it was not needed.

Mr. CANNON. Mr. Wright, both the record of the Power Administration and your record, have been gratifying as to the efficiency of administration and as to the economy with which you have handled the money we have given you. I take it for granted, from what you have said just now, that the money requested in the 1958 estimates was just about sufficient to cover your requirements?

Mr. WRIGHT. Yes, sir. I think that $1,045,000 is as little as we can do a maintenance and operating job with, to insure the safety and proper utilization of that system.

Mr. CANNON. You cannot see any surplus that will be returned to the Treasury at the end of the fiscal year?

Mr. WRIGHT. We cannot, if we can get the people to do the work that has to be done and needs to be done.

Mr. CANNON. Proceed.

CONGRESSIONAL DIRECTIVES

Mr. WRIGHT. During the hearings on the 1956 appropriations and the 1957 appropriations, the committees of Congress, and particularly the committees of the House, issued certain instructions and requests to the Southwestern Power Administration governing certain contractual relationships and operations it desired us to carry out.

With your permission, I would like to insert in the record at this point summaries of actions of the House and Senate Appropriation Committees pertinent to our appropriations for the fiscal years 1956 and 1957, which we considered the directives of our Board of Directors to us.

Mr. CANNON. They will be included in the record.

(The matter referred to follows:)

SUMMARY OF CONGRESSIONAL ACTIONS AFFECTING SOUTHWESTERN POWER ADMINISTRATION

84TH CONGRESS, 1ST SESSION, PUBLIC WORKS APPROPRIATIONS BILL, FISCAL YEAR 1956

House Report No. 747

Operation and maintenance.—Recommends reduction of budget estimate from $1,134,000 to $684,000. The reduction of $450,000 represents the amount budgeted for the purchase of energy and the payment of wheeling charges under existing contracts with private utility companies and cooperatives in the area. Funds for this purpose have been made available through reactivation of the continuing fund.

Continuing fund.—Recommends reactivation of continuing fund for use of power revenues, with annual limitation, to pay for emergency expenditures, purchase of power and energy, and rentals for use of transmission facilities. Makes possible reactivation of generation and transmission contracts. Instructs Interior to delete any provisions providing for the option to purchase generation and transmission lines or other facilities by SPA. Provides further (1) that the generation and transmission cooperatives will operate and maintain their own transmission systems under lease to SPA; (2) that the Southwestern Power Administration and the generation and transmission cooperatives will settle accounts for power purchased and sold on the basis of net balance, as is done under existing contracts to which SPA and private utilities are parties; and (3) that power and energy will be delivered to the load centers of all generation and transmission contracting systems at the basic SPA rate.

Instructs Department to provide for recapture for preference customers all power and energy entitled them under the Flood Control Act, and to negotiate as soon as possible a settlement with each generation and transmission cooperative, effective as of the date of passage of the bill.

Senate Report No. 700

Operation and maintenance.—Recommends appropriation of $1,250,000, which does not include funds for purchase of energy and wheeling charges provided for in continuing fund. Increase of $566,000 over the $684,000 recommended by the House is for additional $316,000 for general administration to take care of substantially increased administrative burden caused by reactivation of continuing fund and the generation and transmission contracts, and $250,000 for payments to the generation and transmission cooperatives for the operation and maintenance of facilities.

Continuing fund.—Recommends that the Senate concur in the action of the House in providing $6 million from the sale of power and energy, as well as rental of facilities, in the continuing fund. Committee desires that existing contracts between SPA and the generation and transmission cooperatives become operative immediately upon approval of this act. Recommends that Secretary give consideration to amending the contracts as follows:

(1) Deletion of provision giving SPA an option to purchase.

(2) Allow generation and transmission cooperatives to operate and maintain their facilities. Considering time involved for negotiation, recommended appropriation of $250,000 under "Operation and maintenance" to provide for payment to cooperatives while amendments are being negotiated.

(3) Allow SPA and generation and transmission cooperatives to settle accounts on net-balance basis.

Conference report No. 1085

Operation and maintenance.—Amendment No. 6 appropriates $1,250,000 as proposed by the Senate instead of $684,000 as proposed by the House.

Continuing fund.—Conferees agree that provision be inserted in contracts to require that power and energy be delivered to the load centers of all generation and transmission contracting systems, "if practical," at the basic SPA rate. Managers on the part of the House agree that statement in Senate report with respect to settling accounts on a net-balance basis includes operation and maintenance costs on generation and transmission cooperative facilities.

Public Law 163, 84th Congress, 1st session

Appropriates $1,250,000 for operation and maintenance, and $6 million for the continuing fund. Public Law 163 was approved July 15, 1955.

84TH CONGRESS, 2D SESSION, PUBLIC WORKS APPROPRIATIONS BILL, FISCAL YEAR 1957

House Report No. 2181

Operation and maintenance.—Recommends appropriation of $1 million (as estimated), which includes $435,000 for system operation and maintenance and $565,000 for sales and administration activities.

Continuing fund.—Bill includes language providing for the use of $6,400,000 of receipts from sale or power for purchase of firming energy, rental of facilities, and payment of wheeling charges.

Directs Department to consider further the applications for power (from new preference customers) and for integration of REA systems which have been presented to SPA and to report to the committee at time of 1958 hearing the action taken. The committee also desires that further study be made of the feasibility of serving the load centers of the cooperatives (member distribution) on the system at basic SPA power rate until the Northwest system is loaded to capacity of Northwest's plant at Missouri City.

Senate Report No. 2169

Operation and maintenance.—Recommends the allowance of $1 million for operation and maintenance expenses, to include requirement of $435,000 for operation and maintenance of approximately 1,000 miles of transmission line.

Continuing fund.—Recommends the allowance of $6,400,000 from the continuing fund for rental of transmission facilities and purchase of energy.

Construction.—Authorizes the use of $290,000 of available construction funds for Bentonville line.

Conference Report No. 2413

Conferees endorse statements in House report concerning applications of preference customers, and concerning service to Northwest.

Directs that up to $290,000 be used for construction of Bentonville line.

Directs that Central's existing facilities for serving the Co-Mo Electric Distribution Cooperative and facilities for serving Cuivre River Electric Cooperative, when built, be included in Central's lease operating contract.

Public Law 641, 84th Congress 2d session

Operation and maintenance.—Appropriates $1 million for necessary expenses of operation and maintenance of power-transmission facilities and of marketing. Includes purchase of not to exceed four passenger vehicles as replacements.

Continuing fund.—Not to exceed $6,400,000 shall be available from the continuing fund for all costs in connection with the purchase of power and energy and rentals of transmission facilities.

Mr. CANNON. Go ahead.

ACTION TAKEN BY AGENCY TO CARRY OUT CONGRESSIONAL DIRECTIVES

Mr. WRIGHT. Then I have for submission in the record, and I have prepared this material, Mr. Chairman, as simply as I can, so that it can be readily available to the committee in a permanent fashion, a summary of the action which Congress requested and a summary of what we have done to carry it out.

Mr. CANNON. We would be very glad to have that. That will be included in the record.

(The material referred to follows:)

SOUTHWESTERN POWER ADMINISTRATION REPORT TO CONGRESSIONAL COMMITTEES IN ACCORDANCE WITH REQUESTS MADE DURING HEARINGS ON THE PUBLIC WORKS APPROPRIATION BILLS FOR 1956 AND 1957

1. Action requested by Congress with respect to the generation and transmission contracts:

(*a*) Reactivate power and lease agreements with generation and transmission Cooperatives, which were considered inoperative by Southwestern Power Administration on July 1, 1953.

(*b*) Modify power and lease agreements as follows:

(1) Deletion of provision giving Southwestern Power Administration an option to purchase the generation and transmission systems and other facilities.

(2) Allow the generation and transmission cooperatives to operate and maintain their own transmission systems under lease to Southwestern Power Administration.

(3) To provide that Southwestern Power Administration and the generation and transmission cooperatives will settle accounts on a net-balance basis.

(4) To provide for delivery of power and energy to the generation and transmission customers' load centers at the basic Southwestern Power Administration rate.

1. (*a*) Action taken by Southwestern Power Administration to comply with desires of Congress with respect to generation and transmission contracts:

(*a*) With the exception of Sho-Me (which was exempted at their request), the contracts with the generation and transmission cooperatives which Southwestern Power Administration had considered inoperative on July 1, 1953, were reactivated by letter agreement effective July 15, 1955.

(*b*) With the exception of Sho-Me, power and lease agreements with the generation and transmission cooperatives were modified by contract amendment, to comply with the desires of Congress, on the following dates:

Central	Oct. 22, 1956
KAMO	Sept. 4, 1956
N. W	Oct. 23, 1956
Western Farmers	Nov. 20, 1956

(*c*) At the request of Sho-Me, the lease-operation agreement, which SPA had considered inoperative on July 1, 1953, was not reactivated. Sho-Me believes that in order to stabilize their system, extensions to their existing system will be necessary, coupled with an additional source of power supply from the north. In view of these conditions, an interim agreement was entered into for a period of 11 months, August 1, 1955, to June 30, 1956. Subsequently, a new interim agreement was consumnated to cover fiscal year 1957. Sho-Me believes that their power supply problem is of such magnitude as to require an additional period of approximately 5 years to solve; therefore, negotiations have recently been completed on a new interim agreement to be in effect for 5 years. It is expected the agreement will be executed and placed in effect by May 1, 1957. In compliance with the desires of Congress concerning modification of power and lease agreements, these interim agreements contain the following provisions:

(1) Provision for balancing of accounts

(2) Provision for delivery of power and energy to Sho-Me's load centers at basic SPA rates

2. Action requested by Congress with respect to "consider further the applications for power and for integration of REA systems which have been presented to the Southwestern Power Administration and to report to the committee at the time of the hearings on the 1958 budget the action taken."

2 (*a*) Action taken by SPA with respect to applications for power:

Estimates of load requirements indicate that potential new customers, from which inquiries have been received, would require approximately 130,000 kilowatts in contract demand by fiscal year 1959, which would increase to approximately 185,000 kilowatts by fiscal year 1962 due to load growth. Many of these applicants for power have been municipalities with their own generating plants, which have merely investigated the possibility of securing power from SPA to supplement plant generation for future requirements, in lieu of plant expansion.

In considering applications for power in the past year, it has been SPA's practice to "take on" new customers where there is a definite emergency or hardship. There is no indication in our files that a hardship or emergency applicant for power has been denied service.

New customers since July 1, 1955, are:

Bentonville, Ark.: Service to begin approximately July 1, 1957.
Fulton, Mo.: Service to begin approximately June 1, 1957.
Paris, Ark.: Service started June 20, 1956.

Since July 1, 1955, increases in contract demand and contract obligation for existing customers have been as follows:

	Kilowatts
Generating and transmission cooperatives	[1] 74, 800
Distribution cooperatives	7, 532
Municipalities	5, 216
Other Government agencies	
Total	87, 548

[1] Based on interim contracts which were in effect on June 30, 1955.

When the Table Rock Dam is placed in commercial operation, and the two additional units planned for Bull Shoals are installed, service to additional preference customers will be considered after increases are made to meet existing customer's normal load growth. Present indications are, however, that power will not be available for new customers except for a small block of peaking capacity, which it is anticipated will be utilized in solving the Arkansas Cooperatives' power-supply problem. Included in SPA's total system requirements is 10 percent of total thermal and hydro dependable capacity without energy, which is held in reserve to meet operational standby requirements.

3. Action requested by Congress with respect to construction of the "Bentonville line."

3 (*a*). Immediate steps were taken to construct the Bentonville line which is scheduled for completion prior to July 1, 1957.

4. Conference on the part of both Houses directs that Central's facilities for serving Co-Mo Electric Distribution Cooperative and facilities for serving Cuivre River Electric Cooperative, when built, be included in Central's lease operating contract with SPA.

4 (*a*). Central's existing facilities, which provide a portion of those necessary for service to Co-Mo Electric Cooperative, have been included in Central's lease operating contract, and SPA has agreed to include in Central's contract the facilities necessary to provide service to Cuivre River Electric Cooperative. However, at the suggestion of Central, inclusion of facilities for service to Cuivre River are being delayed pending a decision as to the feasibility of including additional facilities for service to Co-Mo, and facilities for service to the Central Missouri Electric Cooperative. In recent conferences with Central, agreement has been reached on the principles for amending their lease agreement with the Government. These are as follows:

(*a*) Central will construct transmission facilities to serve the Cuivre River Electric Cooperative, Inc., Troy, Mo.; Central Missouri Electric Cooperative, Inc., Sedalia, Mo.; and the remaining loads of the Co-Mo Electric Cooperative, Inc., Tipton, Mo. (additional facilities).

(*b*) Upon approval of the amendment to the lease contract, Central will cancel the lease on the 69-kilovolt system effective July 1, 1957. From that date until Central places the additional facilities in service, SPA will pay Central a transmission service charge equivalent to the cost of operation, maintenance, replacements, and rental charge of the presently leased 69-kilovolt system.

(*c*) As units of the "Additional facilities" are placed in service, the transmission service charge will be increased proportionately until it reaches $46,000 per month (subject to final agreement) upon completion of all of the additional

facilities, covering the delivery of up to 45 milliwatts to Central of capacity over the existing transmission system and the additional facilities.

(*d*) SPA will continue to have the right to use surplus capacity in the present and additional facilities.

(*e*) The transmission service charge is made up of two components: Central load service charge and other Government load service charge. When power from all sources delivered to Central's load centers served from present facilities and additional facilities exceeds 45 milliwatts of capacity, the Central load service charge paid by SPA will be adjusted annually on the basis of the ratio of 45 milliwatts to the maximum demand for the previous year of all Central's loads on its 69-kilovolt transmission facilities. The other Government load service charge shall be computed on the basis of $0.80 per kilowatt per month of load served by the Government (other than Central) from the 69-kilovolt transmission system. This unit cost of $0.80 per kilowatt per month shall be subject to renegotiation by either party at approximately 5-year intervals. The payment will be developed from the following formula:

$$P=(C-\$0.80A)\times\frac{45{,}000}{B}\div\$0.80A$$

where:

A = Kilowatts of Government load other than Central
B = Kilowatts Central's total system load
C = Agreed payment level ($46,000)
P = Payment to cooperative (not to exceed C)

(*f*) If Central installs additional generating capacity in excess of that required to serve its immediate loads (for economy of operation) SPA will permit the delivery of such surplus power over its 161-kilovolt grid at no charge.

(*g*) Central will not modify or operate the present system nor construct the additional facilities in any way that will reduce the capability of the present system.

NEW CONTRACTS WITH COOPERATIVES

Mr. WRIGHT. Very briefly it is this: We have complied with the requests of the Congress with respect to every generating and transmission cooperative, with the exception of the Sho-Me Power Corp., who themselves requested an alternate arrangement. We have worked out that alternate arrangement with them and we reimburse them with the transmission charge in lieu of leasing their lines. Likewise, we have worked out an agreement with the Northwest Cooperative which this committee wished, where we reimburse them with the transmission charge. These two contracts have led to a new concept under which we and the generating and transmissions are now working on, an extended program which is the last thing I want to talk to you about. That is, our plans for the future. They do tie into the direction that we believe the committee wishes us to go.

Mr. CANNON. This is the response then to indications which the committee gave you at our last hearing?

Mr. WRIGHT. That is correct, and which we have carried out successfully, every single one of them.

I may say that we have done it in a way that both they and we are well satisfied with.

Mr. CANNON. Is this a very material change, Mr. Wright, or is it a mere technicality?

Mr. WRIGHT. No; it is a very material change in our relationship.

Mr. CANNON. You do think it might lead, in the future, to standardization along those lines with other co-op's?

Mr. WRIGHT. Absolutely, sir.

Mr. CANNON. You anticipate that?

Mr. WRIGHT. We are getting to a power policy and program in the Southwest where I believe every member of this committee will be able to say that he is tickled to see we have got there and relationships established, which is the last thing in our future program.

Mr. CANNON. Just briefly at this time, what are the specific advantages of this new contract?

Mr. WRIGHT. I have pointed out to the committee for years that hydroelectric dams do not come in the amount of power that customers need. Therefore, customers who deal with the Government must find some way that they can assume what we call the local utility responsibility, some other place to get the power that the Government simply does not have to give them.

Mr. CANNON. Thermal power?

Mr. WRIGHT. Yes, sir; or any other type.

Mr. CANNON. You are able to supply all of the water power?

Mr. WRIGHT. Well, we do not have nearly all that can be absorbed in the market. There is not that much in the Southwest, if you develop it all.

Mr. CANNON. But your requirements, or supplemental power, thermal power?

Mr. WRIGHT. That is right. Without the Government assuming the obligation, as this committee knows, we have been trying to find some way the Government's power can be properly used without the Government having to assume more responsibility and part in the power business than it perhaps ought to assume.

Mr. CANNON. That can be done through the co-ops?

Mr. WRIGHT. That is being done today, both through the co-op's and the companies, sir, and everybody is happy about it. I have some new company contracts, since I have been here last year. We also had some concern expressed by the committee about a cooperative at Palmyra, Mo., and the committee may well have expressed concern about that. So far, we have been trying to integrate with it and upon expression of concern by the committee we did something about it.

REA REPAYMENTS

December 31, 1955, the total REA deficit in the United States, the total lack of payment by REA in the United States was about $388,000.

Mr. CANNON. You mean lack of payment or power?

Mr. WRIGHT. No; the lack of meeting payments to REA on loans over the whole United States, amounting to many billions of dollars, was only $388,566.

Mr. CANNON. That is extraordinary in view of the value, in view of the total amount handled. What was the total? How does that compare?

Mr. WRIGHT. The total was several billions of dollars, about $2,900 million, I believe.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. CANNON. On the record.

Please go ahead.

Mr. WRIGHT. It is a most extraordinary record when you see what it involves and when you put your finger on one of the most difficult

points; $230,000 of that $388,000 was Palmyra Generating Cooperative which had been trying to operate in an isolated fashion. Since that time, we have been able to inetgrate our operations with theirs and the other G. and T.'s and other municipalities and other companies. As of July 1 of this year this cooperative expects to be in the black.

Mr. CANNON. That is very gratifying.

RELATIONS WITH COOPERATIVE IN PALMYRA, MO.

Mr. WRIGHT. I would like to introduce in the record at this point a copy of the letter from the Palmyra Cooperative, not the Government's version of what was done, but the cooperative's version of what was done.

Mr. CANNON. It will be included.

(The matter referred to follows:)

NORTHEAST MISSOURI ELECTRIC POWER COOPERATIVE,
Palmyra, Mo., April 8, 1957.

Mr. DOUGLAS G. WRIGHT,
Administrator, Southwestern Power Administration,
Tulsa, Okla.

DEAR SIR: I am taking this opportunity to report the satisfactory operations of our system, Northeast Missouri Electric Power Cooperative, with that of the Southwestern Power Administration.

The interconnection has proven itself valuable to Northeast and has helped us financially to some extent, although it has only been in force since January 1, 1957. Previously, as you know, we did sell some power to the city of Springfield, Mo., which was delivered through the leased system of the Southwestern Power Administration. This was a profitable sale for Northeast although we did sell the power at a very low rate, but the capacity for generating this amount of power was available and we are most happy that the arrangements were made and consummated. We gained a net margin of $10,800 from this one piece of business in the operational year of 1956, and I believe you can readily understand that this was quite helpful as we have had financial difficulties getting our system into total and profitable operation.

The connection with the Southwestern Power Administration's system and leased systems is our only source of emergency power in the event of failure of our own equipment and this phase of our association and interconnection is very difficult to price, but it is most valuable and we would not feel at all secure without it.

Since the beginning of this year, 1957, we have sold to the Southwestern Power Administration $15,000 worth of dump power out of our South River station's generating facilities, and this has also been very helpful as it enabled us to run our generating facilities at a much improved load factor, thereby improving the efficiency of the equipment and consequently lowering the generating costs of the power we delivered into our own system to our member distribution cooperatives enabling us to make a gain in our margin. Also, we made a small margin from the dump power delivered into the Southwestern Power Administration's system, which we estimated to be approximately $1,800 for the months of January and February.

We have been receiving dump power from the Southwestern Power Administration's system since April 1, 1957, for 1¼ mills per kilowatt hour and this is helping us greatly. Fully realizing that this cannot continue over too great a length of time, that is only when the Southwestern Power Administration's reservoirs are full, it certainly is beneficial. We are using an average of 140,000 kilowatt-hours per day of this dump power which nets us a saving of 2½ mills per kilowatt-hours; this is the difference between the cost of the dump power and the cost of fuel were we generating the same amount of power with out thermo equipment at our South River station. It also has permitted us to perform some maintenance at our facilities without paying a prohibitively high cost for emergency power for a scheduled shutdown which we had anticipated making later in the year. To date this is the most profitable piece of business that has come into the operations of our system.

We are still hopeful of concluding a satisfactory operational contract with the Southwestern Power Administration for the leasing of one of our units to help firm up the hydro power in the Southwestern Power Administration's system, and also enabling us to take advantage of the purchase of hydroelectrically generated power, both firm and dump. This arrangement would help our system enormously as we are in need of such an arrangement for more economical operation of our generating equipment, and also would enable us to dispose of power which we would be able to generate from our standby machine and from the surplus capacity in running machines. We feel that when a permanent operational contract can be concluded with the Southwestern Power Administration we should gain financial benefit from it in a minimum amount of $100,000 per year margin, while at the same time we would be furnishing economically priced power to the Southwestern Power Administration system which we believe would also be quite beneficial to Southwestern Power Administration in that it would tend to firm the hydroelectric power and offer all the benefits of integration.

The purpose of this letter is to advise and inform the Administrator of the Southwestern Power Administration of the benefits received and those anticipated in a more complete operational arrangement with the Southwestern Power Administration.

We do not expect the Southwestern Power Administration to assume any obligations for any purposes other than for which it was created, and we are only attempting to integrate our generating facilities into the Government-owned hydroelectric and transmission facilities, owned and leased, for the mutual advantages of integration of the systems. I here again state that the Northeast Missouri Electric Power Cooperative is badly in need of such an integration and that the Southwestern Power Administration system is the only one whereby we can feasibly integrate for mutual advantages, as we have previously tried all other avenues and have been unable to prove them feasible. Explaining this, I wish to state that we have attempted to integrate the Northeast system with that of the commercially owned private utilities in our operational area for the past 2 years. The commercial utilities have been most sincere in their efforts to feasibly interconnect with us, but it has been found that we cannot do so without isolating our system and that of the commercial systems from all other interconnections. They do not wish to do this, and we do not wish to isolate ourselves from the Southwestern Power Administration system and the cooperatives integrated with it.

I wish to take the opportunity of thanking Mr. Wright, Administrator, and his staff for the courteous consideration of our problems and the great assistance they have given us during the past year and one-half concerning the aforementioned items of sale and purchase of power. I remain,

Sincerely yours,

M. W. BOUDREAUX, *General Manager.*

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. CANNON. You may continue.

Mr. WRIGHT. Palmyra, Mo., is located near Hannibal at the top portion of this map. They are interconnected with the 69-kilovolt transmission lines of the Central Cooperative of Jefferson City, Mo. The capacity of that is available to the Government for utilization of the dump power into that system at that point, so that instead of having to bring power to that system from Bull Shoals Dam, it came in on the north end which gave us a positive loss.

Mr. CANNON. All that is hydro power?

Mr. WRIGHT. Off of the hydro power. Then we moved the hydro power that would have gone to that point in Central in Springfield. The electrical characteristics made it go there. Because of all of those things and due to the way the utilities of Southwestern are interconnected and exchange power.

Mr. CANNON. The Springfield Northwestern arrangement has proven entirely feasible?

Mr. WRIGHT. Yes, sir; it was done only on a temporary basis for a temporary period of time, but as these temporary conditions are concerned and because of this integration, people can make arrange-

ments of this kind. Frankly, the dream I have had for some time seems to have come true.

Mr. CANNON. What are the prospects for future contracts in that respect?

Mr. WRIGHT. The prospects are unlimited. As far as the Government power becomes available, that is.

Mr. CANNON. You expect shortly to be able to negotiate such contracts?

Mr. WRIGHT. That is correct, sir. We have had many of them and many of them we are negotiating on now, not only with G. and T.'s but we expect someday to have interconnections with Union Electric, sir, and Kansas City Power & Light Co. We already have a new contract with Southwestern Gas & Electric Co. since I was here last and we are practically integrated in the Southwest.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. CANNON. On the record.

POWER SALES AND REVENUE

Mr. WRIGHT. I would like to place in the record at this time, Mr. Chairman, a series of tabulations which I will mention individually, that show what we have done with the Government property we have disposed of.

There are always a lot of questions in public power operations or in Government power operations, about what was done with the power and what you got for it, where it went and so forth.

We have a very brief summary tabulation which I would like to put in the record at this point that shows that we have generated in the Southwest a total of 4,329,792,309 kilowatt-hours. We have bought about 962 million kilowatt-hours and exchanged that much power and that all of our firm power sales netted a return of 5.95 mills per kilowatt-hour and that the preferred customers paid 5.55 for the power they got and that they got about 55 percent of all that was generated down there. The aluminum contract has gotten 25 or 30 percent and sales to the companies have totaled the other amount. The aluminum contract paid 5.2 mills for the power and the other companies paid 6.7 since the beginning of time in our contracts.

Mr. CANNON. That will be included in the record.

(The matter referred to follows:)

Total kilowatt-hour sales and revenue, fiscal year 1945 through fiscal year 1956

	Kilowatt-hours	Revenue	Mills per kilowatt-hour, average on Government transmission grid
Total hydroelectric power and energy sales	5, 878, 678, 638	$28, 383, 310. 20	
Less secondary hydroelectric sales	1, 548, 886, 329	1, 904, 318. 66	1. 23
Total hydroelectric primary sales	4, 329, 792, 309	26, 478, 991. 54	6. 12
Purchased and withdrawn power	962, 271, 535		
Total, all firm sales	5, 292, 063, 844	31, 488, 776. 86	5. 95
Total sales to preferred customers, firm	2, 568, 429, 612	14, 263, 420. 50	5. 55
Total sales to companies, firm	2, 723, 634, 232	17, 225, 356. 36	6. 32
Less aluminum contract sales, firm	682, 346, 900	3, 548, 203. 88	5. 20
Total, other company sales, firm	2, 041, 287, 332	13, 677, 152. 48	6. 70

Mr. CANNON. Will that reflect the results of extreme droughts you have had in that area in the last year or two?

Mr. WRIGHT. Only in the amount of power that we have had to purchase, which has been increased. We think that the drought has cost us about $3,200,000 in loss of power that we could not deliver, and that we have certain contracts with utilities that allow us to rearrange our power schedules with them and, on purchase power, we think the drought has cost, or has cut our revenue by about $3,200,000 in direct power costs.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. CANNON. On the record.

Mr. WRIGHT. Most of it is in the form of interchange, Mr. Chairman, where we give 1 hour of hydro peak and take back 2 hours of thermal offpeak. Quite recently, there was no monetary value attached to this power. I have a tabulation in detail that I would like to put in the record which shows the total sales to the Texas Power & Light Co. for our interchange contract and another tabulation that shows it with the Texas Power & Light Co. since our interchange contract.

Mr. CANNON. That will be included in the record.

(The matter referred to follows:)

Summary of sales to Texas Power & Light Co. previous to contract No. 177

	Fiscal year 1944	Fiscal year 1945	Fiscal year 1946	Fiscal year 1947	1st month, fiscal year 1948	Total
Hydro energy to company:						
Primary energy kilowatt-hours	0	42,480,784	112,190,377	127,524,500	1,429,000	283,624,661
Secondary energy kilowatt-hours	1,032,112	52,377,642	114,584,123	109,376,500	0	277,370,377
Total.....do....	1,032,112	94,858,426	226,774,500	236,901,000	1,429,000	560,995,038
Revenue:						
Primary energy	0	$224,177.57	$560,951.89	$637,622.50	$7,135.36	$1,429,887.32
Secondary energy	$2,326.07	62,401.83	132,602.53	123,253.75	0	320,584.18
Total	2,326.07	286,579.40	693,554.42	760,876.25	7,135.36	1,750,471.50
Average rate, mills per kilowatt-hour:						
Primary energy	0	5.28	5.00	5.00	4.99	5.04
Secondary energy	2.25	1.19	1.16	1.13	0	1.16

Summary of total sales under Texas Power & Light Co. contract No. 177

	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955 [1]	Fiscal year 1956	Total contract	Total fiscal year 1950 through fiscal year 1956
Hydro energy to company:											
Primary ..... kilowatt-hours	120,000,000	120,000,000	77,665,500	69,509,700	71,095,800	62,805,910	77,282,900	43,368,000	70,523,000	712,250,810	472,250,810
Secondary ..... do	31,837,000	31,357,000	25,138,000	111,767,300	22,085,200	.....	26,933,000	16,016,000	23,620,000	288,784,500	225,590,500
Total energy ..... do	151,837,000	151,357,000	102,830,500	181,277,000	93,182,000	62,805,910	104,245,900	59,384,000	94,143,000	1,001,035,310	697,841,310
Continuous available energy from company to Government customers ..... kilowatt-hours	3,195,658	16,876,769	21,551,563	32,178,798	51,844,883	57,382,167	65,293,104	74,228,287	87,902,188	410,453,417	390,380,990
Revenue:											
Texas Power & Light Co.:											
Gross, total energy	$704,193.52	$708,000.00	$623,133.33	$624,000.00	$624,000.00	$624,000.00	$624,000.00	$501,840.00	$624,000.00	$5,657,166.85	$4,244,973.33
Less secondary	39,796.25	39,193.25	31,422.50	139,709.12	27,607.75	.....	33,703.75	20,020.00	29,525.00	360,980.62	281,988.12
Gross, primary energy	664,397.27	668,803.75	591,710.83	484,290.88	596,392.25	624,000.00	590,296.25	481,820.00	594,475.00	5,296,186.23	3,962,985.21
Less purchased power	18,590.99	97,379.83	125,502.33	181,662.46	289,143.10	321,595.15	364,053.41	409,915.59	479,469.98	2,287,312.84	2,171,342.02
Net revenue before wheeling	645,806.28	571,423.92	466,208.50	302,628.42	307,249.15	302,404.85	225,242.84	71,904.41	115,005.02	3,008,873.39	1,791,643.19
Government customers	18,261.58	96,005.83	122,517.48	180,406.51	283,892.97	318,485.68	358,325.83	400,458.37	478,784.11	2,257,138.36	2,142,870.95
Total revenue for primary engergy on Government transmission grid	664,067.86	667,429.75	588,725.98	483,034.93	591,142.12	620,890.53	584,568.67	472,362.78	593,789.13	5,266,011.75	3,934,514.14
Less wheeling charges	None	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total revenue for primary engery delivered to Government customers and retained by company	664,067.86	667,429.75	588,725.98	483,034.93	591,142.12	620,890.53	584,568.67	472,362.78	593,789.13	5,266,011.75	3,934,514.14
Average rate per kilowatt-hour received for primary energy on Government transimission grid ..... mills	5.53	5.56	7.58	6.95	8.31	9.89	7.56	10.89	8.42	7.39	8.33
Average rate per kilowatt-hour company paid for primary energy retained [2] ..... mills	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.97	21.90
Average rate per kilowatt-hour paid by Government customers ..... mills	5.71	5.69	5.68	5.61	5.48	5.55	5.49	5.39	5.45	5.50	5.49
Rate per kilowatt-hour received for secondary energy ..... mills	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25

[1] Company deferred and did not pay for 25,450,000 kilowatt-hours primary energy.
[2] Line 9 divided by line 1 minus line 4.

Mr. CANNON. Go ahead.

Mr. WRIGHT. They are interesting for this reason: When we simply were selling power to the company we had a return of 5 mills for the power and after the integration contract we had a return, since the beginning of that contract, of 8.33 mills per kilowatt-hour, and the rate paid by the Government's customers during that time has been an average of 5.49 mills. In other words, the interchange with the companies is so favorable that the Government received a tremendous financial advantage out of it. I have the same tabulation for the——

Mr. CANNON. That situation will continue?

Mr. WRIGHT. Yes, sir; it will be better, as I will show you.

I have the same thing for the Oklahoma companies. Before we had our integration contract with them, we had a return from our sales with them of 6.42 mills and since our integration contract, our return has been 6.83 mills.

I have the same tabulation with the Southwest Gas & Electric Co. contract and this is the total power, gentlemen, that the Southwestern Power has ever disposed of. It is all the Government property ever entrusted to our care.

Mr. CANNON. Just there, the condition of your plant, the maintenance of your plant, is today at top peak? Your depreciation has all been taken care of?

Mr. WRIGHT. Yes, sir. The direct sales will give us a return of 5.37 mills per kilowatt-hour. That is interesting because the direct sales in most cases were made at load center with the interchange and with the company and were made at the main grid system. As you know, we have a contract for service of an aluminum plant over in Arkansas and before that we had some sales to the Arkansas Power & Light Co.

I would like to introduce two tabulations in the record giving the total sales to those groups.

Last year Mr. Taber requested certain information for the record which we believe to be highly desirable. We have taken the liberty this year of preparing material in connection with those requests with the extension in them of the additional information during the last year's operations.

With your permission, Mr. Chairman, I would like to put in the record the actual revenue and operating expenses by classes of customers requested by Mr. Taber last year. This shows the installed and ultimate capacity of the reservoirs requested by Mr. Taber last year, and the costs, revenues, and power production by projects of the Southwestern Power Administration.

Mr. CANNON. We shall be very glad to have all of the information you can give us.

Mr. WRIGHT. That is practically all that I have for the record, Mr. Chairman.

Mr. CANNON. They will be included in the record at this point.

(The material referred to follows:)

Summary of sales to Oklahoma utility companies previous to contract No. 356

	Fiscal year 1945	Fiscal year 1946	Fiscal year 1947	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	1st 9 months fiscal year 1951	4 months fiscal year 1953	Total
Hydro energy to companies:									
Primary energy.....kilowatt-hours..	4, 418, 000	11, 678, 000	7, 153, 000	12, 333, 000	14, 051, 000	60, 668, 528	53, 341, 920	0	163, 643, 448
Secondary energy.....do..	2, 391, 000	6, 106, 000	3, 543, 000	0	0	0	0	22, 751, 484	34, 791, 484
Total.....do..	6, 809, 000	17, 784, 000	10, 696, 000	12, 333, 000	14, 051, 000	63, 668, 528	53, 341, 920	22, 751, 484	198, 434, 932
Revenue:									
Primary energy.....	$24, 318. 00	$58, 390. 00	$35, 765. 00	$79, 073. 00	$89, 322. 00	$405, 390. 48	$359, 117. 65	0	$1, 051, 376. 13
Secondary energy.....	2, 994. 28	6, 659. 50	3, 543. 00	0	0	0	0	$22, 751. 49	35, 948. 27
Total.....	27, 312. 28	65, 049. 50	39, 308. 00	79, 073. 00	89, 322. 00	405, 390. 48	359, 117. 65	22, 751. 49	1, 087, 324. 40
Average rate:									
Primary energy ...mills per kilowatt-hour..	5. 50	5. 57	5. 00	6. 41	6. 36	6. 68	6. 73	0	6. 42
Secondary energy.....do..	1. 25	1. 09	1. 00	0	0	0	0	1. 00	1. 03

Summary of total sales under Oklahoma companies contract No. 356

	Last 3 months, fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Total, contract 356
Hydro energy to companies:							
Primary ..... kilowatt-hours	7,364,556	43,579,455	70,684,401	93,700,349	[1] 112,363,000	[2] 114,378,000	442,069,761
Secondary ..... do	11,678,537	12,616,814	23,666,968	19,664,900	7,609,100	8,494,800	83,731,119
Total energy ..... do	19,043,093	56,196,269	94,351,369	113,365,249	119,972,100	122,872,800	525,800,880
Continuous available energy from companies to Government customers ..... do	2,746,200	44,721,072	80,394,860	109,331,313	125,778,081	126,702,082	489,673,608
Revenue:							
Oklahoma utility companies:							
Gross, total energy	$62,748.65	$76,619.52	$116,712.79	$216,300.67	$68,246.54	$96,282.01	$636,910.18
Less secondary energy	14,598.17	15,771.02	29,583.71	24,581.12	9,511.38	10,618.50	104,663.90
Gross, primary energy	48,150.48	60,848.50	87,129.08	191,719.55	58,735.16	85,663.51	532,246.28
Less purchased power		7,108.92	38,841.84	70,709.99	68,084.96	49,495.87	234,241.58
Net revenue before wheeling	48,150.48	53,739.58	48,287.24	121,009.56	−9,349.80	36,167.64	298,004.70
Government customers	16,587.47	251,819.73	444,954.20	601,312.85	696,916.81	711,459.52	2,723,050.58
Total revenue for primary energy on Government transmission grid	64,737.95	305,559.31	493,241.44	722,322.41	687,567.01	747,627.16	3,021,055.28
Less wheeling charges	3,432.75	55,901.34	100,493.59	136,664.16	157,222.61	158,377.61	612,092.06
Total revenue for primary energy, delivered to Government customers and retained by companies	61,305.20	249,657.97	392,747.85	585,658.25	530,344.40	589,249.55	2,408,963.22
Average rate per kilowatt-hour received for primary on Government transmission grid ..... mills	8.79	7.01	6.98	7.71	6.12	6.54	6.83
Average rate per kilowatt-hour companies paid for primary energy retained ..... mills							[3]
Average rate per kilowatt-hour Government customers paid ..... do	6.04	5.63	5.53	5.50	5.54	5.62	5.56
Average rate per kilowatt-hour received for secondary energy ..... do	1.25	1.25	1.25	1.25	1.25	1.25	1.25

[1] Includes sales of 27,426,100 kilowatt-hours primary energy paid for but deferred as to delivery at end of year.

[2] At end of June 1956, 3,064,600 kilowatt-hours primary energy previously paid for remained yet to be delivered to companies.

[3] None retained.

Summary of sales to Southwestern Gas & Electric Co. previous to contract No. 396

	Last 2 months, fiscal year 1950	1st 7½ months, fiscal year 1951	Total
Hydro energy to company:			
Primary energy ..... kilowatt-hours	0	12,912,350	12,912,350
Secondary energy ..... do	3,058,270	2,455,330	5,513,600
Total ..... do	3,058,270	15,367,680	18,425,950
Revenue:			
Primary energy	0	$86,803.63	$86,803.63
Secondary energy	$3,822.84	$3,069.17	$6,892.01
Total	$3,822.84	$89,872.80	$93,695.64
Average rate:			
Primary energy ..... mills per kilowatt-hour	0	6.72	6.72
Secondary energy ..... do	1.25	1.25	1.25

Summary of sales under Southwestern Gas & Electric Co. contract No. 396

	Last 4½ months fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Total contract 396
Hydro energy to company:							
Primary [1] ..... kilowatt-hours	6,457,000	17,218,690	17,218,690	17,218,690	17,218,690	17,218,690	92,550,450
Secondary ..... do	7,394,700	24,265,560	30,163,140		11,590,710	3,999,110	77,413,220
Total energy	13,851,700	41,484,250	47,381,830	17,218,690	28,809,400	21,217,800	169,963,670
Continuous available energy from company to Government customers kilowatt-hours		6,207,906	19,265,500	21,247,290	23,196,498	23,025,580	92,942,774
Revenue:							
Southwestern Gas & Electric Co.:							
Gross, total energy	$76,392.86	$200,322.58	$207,000.00	$207,000.00	$207,000.00	$207,000.00	$1,104,715.44
Less secondary energy	9,243.37	30,331.95	37,703.93		14,488.39	4,998.89	96,766.53
Gross, primary energy	67,149.49	169,990.63	169,296.07	207,000.00	192,511.61	202,001.11	1,007,948.91
Less purchased power		34,365.62	106,096.00	117,564.36	128,585.59	128,139.52	514,751.09
Net revenue before wheeling	67,149.49	135,625.01	63,200.07	89,435.64	63,926.02	73,861.59	493,197.82
Government customers		33,059.07	103,363.55	114,535.16	124,620.54	124,439.02	500,017.34
Total revenue at Government bus	67,149.49	168,684.08	166,563.62	203,970.80	188,546.56	198,300.61	993,215.16
Less wheeling charge		4,871.80	12,000.00	12,000.00	12,000.00	12,000.00	52,871.80
Total revenue for primary energy, delivered to Government customers and retained by company	67,149.49	163,812.28	154,563.62	191,970.80	176,546.56	186,300.61	940,343.36
Average rate per kilowatt-hour received for primary energy at Government bus ..... mills	10.40	9.80	9.67	11.85	10.95	11.52	10.73
Average rate per kilowatt-hour paid by Government customers ..... do		5.32	5.37	5.39	5.37	5.40	5.38
Rate per kilowatt-hour received for secondary energy ..... do	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Additional purchased power:							
Kilowatt-hours						283,500	283,500
Amount						$1,679.10	$1,679.10

[1] Based on lowest generation occurring in fiscal year 1954 of 17,218,690 kilowatt-hours. Primary energy for project is estmated as 18,400,000 kilowatt-hours.

Summary of total sales to preference customers served direct by Southwestern Power Administration

	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Total
Kilowatt-hour sales:								
Generation and transmission cooperatives (except Whitney)	1,016,099	23,760,527	39,485,000	58,957,558	164,430,145	209,938,245	654,103,312	1,151,690,886
Other preference customers	853,524	15,552,097	19,166,200	23,264,361	77,597,835	114,517,690	138,558,859	389,510,566
Total	1,869,623	39,312,624	58,651,200	82,221,919	242,027,980	324,455,935	792,662,171	1,541,201,452
Revenue:								
Generation and transmission cooperatives (except Whitney)	$6,104.72	$131,083.81	$208,378.60	$320,609.65	$923,089.24	$1,132,354.95	$3,485,139.90	$6,206,760.87
Other preference customers	5,127.96	89,928.39	106,420.90	126,683.25	428,542.67	629,281.90	739,192.78	2,125,177.85
Total	11,232.68	221,012.20	314,799.50	447,292.90	1,351,631.91	1,761,636.85	4,224,332.68	8,331,938.72
Average rate, mills per kilowatt-hour	6.01	5.62	5.37	5.44	5.58	5.43	5.33	5.41
Purchased power, generation and transmission:								
Kilowatt-hours					56,204,137	175,157,357	583,857,363	815,218,857
Amount					$294,051.98	$1,100,318.59	$3,380,411.49	$4,774,782.06
Average cost, mills per kilowatt-hour					5.23	6.28	5.79	5.86
Service charge (generation and transmission): Amount				$1,817.51	$357,271.59	$485,160.81	$58,337.04	$844,249.91
Lease payments (generation and transmission):								
Amortization							$1,443,803.08	$1,443,803.08
Administration							255,846.41	255,846.41
Total							1,699,649.49	1,699,649.49
Operation and maintenance (generation and transmission):								
Operation							187,762.44	187,762.44
Maintenance							94,704.13	94,704.13
Replacements							3,197.57	3,197.57
Total							285,664.14	285,664.14
Whitney Dam project: [1]								
Kilowatt-hour sales				352,000	19,747,012	29,717,848	49,214,106	99,030,966
Revenue				$440.00	$24,683.76	$65,829.56	$441,000.00	$531,953.32
Average rate, mills per kilowatt-hour				1.25	1.25	2.22	8.96	5.37

[1] Power and energy generated at Whitney Dam project prior to June 1, 1955, was incidental to release of water for testing and downstream water uses and sold accordingly.

Summary of total sales to Arkansas Power & Light Co. (except aluminum contract)

	June 1944	Fiscal year 1945	Fiscal year 1946	Fiscal year 1947	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	1st 6 months, fiscal year 1954	Fiscal year 1956 [1]	Total
Hydro energy to company:													
Primary...kilowatts		45,958,174	76,115,300	110,487,000	125,009,000	146,505,700	157,509,785	120,101,082	154,995,507	129,874,278	112,000,000		1,178,555,826
Secondary.....do	[2] 2,632,000	52,317,150	100,401,000	88,061,000	16,939,000	38,972,900	105,309,863	45,849,576	127,670,730	105,898,250		2,378,460	686,429,929
Total energy..do	2,632,000	98,275,324	176,516,300	198,548,000	141,948,000	185,478,600	262,819,648	165,950,658	282,666,237	235,772,528	112,000,000	2,378,460	1,864,985,755
Revenue:													
Primary		$259,672.36	$379,425.39	$519,949.60	$710,177.72	$817,022.80	$866,539.14	$777,404.32	$1,014,600.53	$971,217.31	$756,000.00		$7,072,009.17
Secondary	[2] $6,183.60	61,395.49	116,959.59	136,085.52	16,939.00	48,161.38	131,637.34	57,311.97	159,588.42	119,709.56		$2,973.08	856,944.95
Total	6,183.60	321,067.85	496,384.98	656,035.12	727,116.72	865,184.18	998,176.48	834,716.29	1,174,188.95	1,090,926.87	756,000.00	2,973.08	7,928,954.12
Average rate, mills per kilowatt-hour:													
Primary		5.65	4.98	4.71	5.68	5.58	5.50	6.47	6.55	7.48	6.75		6.00
Secondary	2.35	1.17	1.16	1.55	1.00	1.24	1.25	3.45	1.25	1.13		1.25	1.25

[1] Testing power and energy from Blakely Mountain Dam project.

[2] Testing and emergency power and energy.

Summary of total sales under Arkansas Power & Light Co. aluminum contract

	Last 6 months, fiscal year 1954	Fiscal year 1955 [1]	Fiscal year 1956	Total
Hydro energy to company:				
Primary ..... kilowatt-hours	180, 000, 000	142, 346, 900	360, 000, 000	682, 346, 900
Secondary ..... do	3, 061, 300	22, 932, 000	6, 695, 000	32, 688, 300
Total ..... do	183, 061, 300	165, 278, 900	366, 695, 000	715, 035, 200
Revenue:				
Primary	$936, 000. 00	$740, 203. 88	$1, 872, 000. 00	$3, 548, 203. 88
Secondary	3, 826. 63	28, 665. 00	8, 368. 75	40, 860. 38
Total	939, 826. 63	768, 868. 88	1, 880, 368. 75	3, 589, 064. 26
Average rate:				
Primary ..... mills per kilowatt-hour	5. 20	5. 20	5. 20	5. 20
Secondary ..... do	1. 25	1. 25	1. 25	1. 25
Company to Reynolds Metals Co. kilowatt-hours	390, 917, 000	953, 100, 000	961, 149, 000	2, 305, 166, 000

[1] 217,653,100 kilowatt-hours deferred as to purchase and delivery, remains deferred at end of fiscal year 1956

Installed and ultimate capacity of projects in commercial operation, fiscal year 1957, Southwestern Power Administration

Project	Installed capacity	Ultimate capacity
	Kilowatts	*Kilowatts*
Blakely Mountain	75, 000	75, 000
Bull Shoals	160, 000	320, 000
Denison	70, 000	175, 000
Fort Gibson	45, 000	67, 500
Norfork	70, 000	140, 000
Tenkiller Ferry	34, 000	34, 000
Narrows	17, 000	25, 500
Whitney	30, 000	30, 000

Actual revenues by class of customers and operating expenses and other income deductions for fiscal year 1956 and estimate for fiscal year 1957, Southwestern Power Administration

	Fiscal year 1956 actual	Fiscal year 1957 estimated
Revenues:		
Revenues from sale of power and energy by class of customers:		
Electric power cooperatives	$4,936,109	$5,497,860
Municipalities	811,619	885,010
Private electric utilities	2,202,363	2,162,810
Public authorities	218,952	280,950
Total revenues	8,169,043	8,826,630
Operating expenses and other income deductions:		
Operating expenses:		
Production	3,486,461	3,360,566
Transmission:		
Operation	229,616	247,748
Maintenance	186,818	203,384
Miscellaneous	2,237,410	2,515,683
Customers' accounting and collecting expenses	13,631	9,811
Sales expenses	52,250	62,968
Administrative and general expenses	284,258	284,982
Subtotal operating expenses	6,490,444	6,685,142
Other income deductions: [1]		
Depreciation expenses	638,596	650,043
Amortization of intangible electric plant	5,065	5,065
Employees' benefit expenses	2,769	3,226
Interest on investment of U S Government	586,199	589,508
Miscellaneous income deductions	15,496	
Subtotal other income deductions	1,248,125	1,247,842
Total operating expenses and other income deductions	7,738,569	7,932,984

[1] Applies only to SPA constructed facilities and does not include hydro project expenses- Depreciation expenses relate to cost accounting and not specifically to repayment requirements.

Costs, revenues, and power production by projects, Southwestern Power Administration area

Project	Project costs			Power produced in fiscal year 1956			Status of revenues [1]			
								Fiscal year 1957		
	Estimated investment in multiple-purpose project cost	Operation, maintenance, and replacements ments costs allocated to power	Marketing costs for fiscal year 1956	Installed generating capacity (kilowatts)[2]	Peak generation (kilowatts)	Energy (kilowatt-hours)	Fiscal year 1956 (actual)	To Feb. 28, 1957 (actual)	To June 30, 1957 (estimated)	Total estimated
Bull Shoals	$79,729,000	[3] $256,000		160,000	162,000	386,641,000				
Norfork	30,093,000	[3] 152,000		70,000	79,000	105,510,000				
Blakely Mountain	33,102,000	[4] 172,000		75,000	76,000	66,132,000				
Tenkiller Ferry	23,391,180	[4] 125,490		34,000	34,000	38,364,800				
Fort Gibson	43,857,632	[4] 207,770		45,000	49,000	74,756,900				
Denison	62,127,550	[4] 257,660		70,000	71,000	196,989,000				
Narrows	13,652,000	[4] 100,000		17,000	17,600	21,158,540				
Whitney	43,868,100	[3] 133,100		30,000	29,000	48,588,000				
Total	$329,820,462	$1,404,020	[5] $6,490,444	501,000	517,600	938,140,240	$8,169,043	$5,428,515	$3,398,115	$8,826,630

[1] Revenues are not allocated to projects due to the integration of systems as described in note 5.
[2] Nameplate rating of installed capacity.
[3] This data taken from Corps of Engineers 1955 cost-allocation reports.
[4] This data taken from Corps of Engineers 1956 cost-allocation reports.
[5] Marketing costs are not allocated to projects, as the Southwestern Power Administration system is integrated with private utilities and generating and transmission cooperative systems. This amount includes costs for purchased power, service charges, and lease payments of $5,681,642.

WATER STORAGE

Mr. WRIGHT. I would now like to include in the record only one other document. It is a very brief tabulation showing the best news I have brought this committee in 5 years. Every reservoir of Southwestern Power Administration is 100 percent full and 6 or 7 of them are up in the flood pool. This is the first time we have been full in a long time, and we are selling a tremendous amount of secondary power, actually about $200,000 worth in the last 3 weeks, to everybody who can use it in the Southwest, all preference companies and all companies that could use it.

(The material referred to follows:)

SOUTHWESTERN POWER ADMINISTRATION

Power storage and potential energy available May 2, 1957

Project	Power storage		Feet [1] above power pool	Potential energy [2]	
	Acre-feet	Percent of full power pool		Kilowatt-hours	Percent of full power pool
Bull Shoals	2,084,000	100	13.5	352,800,000	100
Denison	1,782,600	100	5.2	169,600,000	100
Fort Gibson	54,000	100	11.1	3,300,000	100
Norfolk	707,000	100	11.4	111,100,000	100
Tenkiller	345,000	100	5.7	43,700,000	100
Subtotal	4,972,600	100		680,500,000	100
Narrows	202,180	100	6.1	25,400,000	100
Whitney	131,700	100	22.1	11,900,000	100
Subtotal	333,880	100		37,300,000	100
Total	5,306,480	100		717,800,000	100

[1] Temporary storage in flood-control pool.
[2] Estimated at 100 percent efficiency.

Rainfall, runoff, and streamflow in this area have been excessive for this season of the year. All reservoirs are storing water above the top of the power pool for flood-control purposes. Table Rock project, under construction on the White River upstream of Bull Shoals, has temporarily impounded more than 800,000 acre-feet.

Mr. CANNON. You are in a position now to take full advantage of all surplus rainfall?

Mr. WRIGHT. That is correct.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. CANNON. On the record.

Mr. WRIGHT. We have had to rearrange our entire power output from projects because of the drought. We were originally capable of producing about 200 hours per kilowatt, per month, on an average, from these projects and we have now been reduced to 150 hours. May I say that every utility company in the area and every cooperative in the area have cooperated with the Government in the rearranging of their contracts to take account of this change in water conditions. Our system is flexible enough so that if we have a worse one we can rearrange them again.

Mr. CANNON. You can prepare in advance for these droughts? You can anticipate them? Do they run in cycles sufficiently definite for you to be able to foresee them from year to year?

Mr. WRIGHT. Yes; they run in cycles sufficiently definite so that we can probably give a warning signal, perhaps as much as 6 months to a year in advance, but you can be wrong. There was every indication in March of this year that we were in for a sizzler this summer and we actually served an adverse water year notice on the Arkansas Power & Light Co., but in May we were selling secondary power. When one of these droughts breaks, history indicates it breaks very rapidly. It breaks by the formation of a low and high pressure area that becomes stationary and just keeps funneling this water up to the entire plains section and then you get these tremendous cloudbursts.

Mr. CANNON. They cannot be foretold with absolute accuracy, but you are in a position to prepare for them?

Mr. WRIGHT. Yes, sir; even if it were one that just passed, far worse than any one of record, we did not get caught with our trousers down, and we did not fail to deliver power to those, or rather, except to those willing to reduce their take.

Mr. CANNON. That is a very gratifying record.

POWER EXCHANGE CONTRACTS WITH UTILITIES

Mr. WRIGHT. I have prepared a tabulation which I hand you, Mr. Chairman, for the information of the committee and yourself, which I think is of interest. I do not ask that it be put in the record, but I would like to discuss it.

Mr. CANNON. Would there be any disadvantage in including it in the record?

Mr. WRIGHT. Not a bit.

Mr. CANNON. If not, it will be included in the record at this point.

(The matter referred to follows:)

Oklahoma utilities companies contract—revenue and expenses under present contract customer withdrawals at 50 percent load factor

Expenses:		
Pay to companies:		
35 kilowatt-hours times $0.004		$0.14
365 kilowatt-hours times $0.00125		.45625
Total		.59625
Revenue:		
Pay from companies:		
01.5 kilowatt times $1.15		.1725
330 kilowatt-hours delivered to companies.		
Pay from preferred customers, present rate A:		
1 kilowatt times $1.35	$1.35	
165 kilowatt-hours times $0.004	0.66	
		2.01
Total revenue		2.1825
Less pay to companies		.59625
Net revenue		1.58625

Return primary energy: $1.58625 divided by 330 kilowatt-hours equals 4.81 mills per killowatt-hour.

Texas Power & Light Co. contract—Revenue and expenses under present contract, customer withdrawals at 50 percent load factor

Expenses: Pay to company:	
1 kilowatt times $1.55	$1. 55
115 kilowatt-hours times $0.004	. 46
Total [1]	2. 01
Revenue:	
Pay from company (2 generating units at Denison):	
Lump sum payment per year (includes 35,000 kilowatts, 70,000,000 kilowatt-hours primary and 63,600,000 kilowatt-hours secondary)	624, 000. 00
Less 63,600,000 kilowatt-hours secondary times $0.0015	95, 400. 00
Total primary revenue	528, 600. 00
Revenue per kilowatt-hour primary energy equals 7.55 mills.	
Pay from preferred customers, present rate A:	
1 kilowatt times $1.35	1. 35
165 kilowatt-hours times $0.004	. 66
Total	2. 01

Return primary energy: $528,600 divided by 70,000,000 kilowatt-hours equals 7.55 mills per kilowatt-hour.

[1] 12-month ratchet of each point of delivery not considered. Such ratchet amounts to an increase in this expense of approximately 0.2 mills per kilowatt-hour at 50 percent load factor ($0.0731 per kilowatt).

Southwestern Gas & Electric Co., contract—Revenue and expenses under proposed contract, preferred customers billing under present rate A, customer withdrawals at 50 percent load factor

Expenses: Pay to company:[1]	
1 kilowatt times $1.65	$1. 65
365 kilowatt-hours times $0.003	1. 095
Total	2. 745
Revenue:	
Pay from company:	
2 kilowatts times $1.20	2. 40
300 kilowatt-hours time $0.002	. 60
Total	3. 00
Pay from preferred customers, present rate A:	
1 kilowatt times $1.35	1. 35
165 kilowatt-hours times $.004	. 66
Total	2. 01
Total revenue	5. 01
Less pay to company	2. 745
Net revenue	2. 265

Return primary energy: $2.265 divided by 300 kilowatt-hours equals 7.55 mills per kilowatt-hour.

[1] Subject to a fuel adjustment.

Oklahoma utility companies contract—Revenue and expenses under proposed amendment, customer withdrawals at 50 percent load factor

Expenses: Pay to companies:	
1 kilowatt times $1.60	$. 60
365 kilowatt-hours times $0.0035	1. 2775
Total [1]	2. 8775
Revenue:	
Pay from companies:	
1.65 kilowatts times $1.20	1. 98
247.5 kilowatt-hours times $0.002	. 495
Total	2. 475
Pay from preferred customers, proposed F–1 rate:	
1 kilowatt times $1.60	1. 60
150 kilowatt-hours times $0.002	. 30
215 kilowatt-hours times $0.003	. 645
Total	2. 545
Total revenue	5. 020
Less pay to companies	2. 8775
Net revenue	2. 1425

Return primary energy: $2.1425 divided by 247.5 kilowatt-hours equals 8.657 mills per kilowatt-hour.

[1] 12-month ratchet of each point of delivery not considered. Such ratchet amounts to an increase in this expense for power withdrawn for cooperatives, of approximately 0.2 mill per kilowatt-hour at 50 percent load factor ($0.073 per kilowatt).

Texas Power & Light Co. contract—Revenue and expenses under proposed amendment, customer withdrawals at 50 percent load factor

Expenses: Pay to company:	
1 kilowatt times $1.60	$1. 60
150 kilowatt-hours times $0.002	. 30
215 kilowatt-hours times $0.003	. 645
Total [1]	2. 545
Revenue:	
Pay from company: (2 generating units at Denison):	
35,000 kilowatts times $14.40	504, 000
70,000,000 kilowatt-hours times $0.002	140, 000
Revenue per year	644, 000
Revenue per kilowatt-hour primary energy equals 9.2 mills.	
Pay from preferred customers, proposed F–1 rate:	
1 kilowatt times $1.60	$1. 60
150 kilowatt-hours times $0.002	. 30
215 kilowatt-hours times $0.003	. 645
Total	2. 545

Return primary energy: $644,000 divided by 70,000,000 kilowatt-hours equals 9.2 mills per kilowatt-hour.

[1] 12-month ratchet of each point of delivery not considered. Such ratchet amounts to an increase in this expense of approximately 0.2 mills per kilowatt-hour at 50 percent load factor ($0.073 per kilowatt).

Southwestern Gas & Electric Co. contract—Revenue and expenses under proposed contract, preferred customers billing under proposed F–1 rate, customer withdrawals at 50 percent load factor

Expenses: Pay to company: [1]	
1 kilowatt times $1.65	$1.65
365 kilowatt-hours times $0.003	1.095
Total	2.745
Revenue:	
Pay from company:	
2 kilowatts times $1.20	2.40
300 kilowatt-hours times $0.002	.60
Total	3.00
Pay from preferred customers, proposed F–1 rate:	
1 kilowatt times $1.60	1.60
150 kilowatt-hours times $0.002	.30
215 kilowatt-hours times $0.003	.645
Total	2.545
Total revenue	5.545
Less pay to company	2.745
Net revenue	2.80

Return primary energy: $2.80 divided by 300 kilowatt-hours equals 9.33 mills per kilowatt-hour.

[1] Subject to a fuel adjustment

Mr. WRIGHT. There are 2 tabulations which show the financial effect of exchange of power between the Government and utility companies with respect to 3 contracts. The first is the Oklahoma contract which shows that under the contract as it exists today the company receives a payment of 42 cents per kilowatt of exchange and under the new contract which we have negotiated and which the companies have signed, putting in the new rate schedule in the company contracts, the company will receive a payment of 40 cents.

My purpose in this is to show that the companies were already paying the new rate for the power in the old contracts and that the exchange values occur in the new contracts out of the proposed change in rates to preference customers.

In the old contracts we have a return of 4.81 mills per kilowatt-hour. Under the new rate structure pending before the Federal Power Commission we will have an exchange of 8.65 mills a kilowatt-hour.

Mr. CANNON. As I understood the reading of the notation, you are securing power from the utilities at a lower rate?

Mr. WRIGHT. That is correct. This exchange has always been in this fashion: The utility companies pay a peaking rate for the hydro power delivered to them and then they deliver continuous power for the Government uses for its customers at a much lower continuous rate. When they do that, the Government makes a certain return on the hydro power which is much higher than the rate that the preference customers have to pay for power.

That is the value of this integration; that is the thing that the companies have used in this, and why I have always told this committee year after year that I would never stop fighting to try to get these

integration contracts so the preference customers can have the financial advantage that these integration contracts bring.

We have prepared a similar one with respect to Texas.

The Texas contract now gives us a return of 7.55 and under the new rate setup it will give us a return of 9.2.

We have a brandnew contract with the Southwestern Gas & Electric Co., patterned after the contract with the Oklahoma and Texas companies, which we were finally successful in negotiating, and I am sure Mr. Jensen of the committee knows we have been trying to do this for 15 years and we finally got it with respect to the State of Arkansas.

I think it is one of the greatest steps we have ever made.

Mr. CANNON. You are paying the utilities 40 cents and they are paying you 42 cents?

Mr. WRIGHT. No, sir; actually, what happens on the exchange of power is that I get many more kilowatt-hours from the utilities than I give them, but the additional hours are costing me such a small amount of money compared with what I get with the hydro power that when you sit down and put down the check you would get from the companies and the check you would get from the cooperatives and the check you have to send the companies, you find you have a return of 2 or 3 mills higher on your hydro power than the preference customers are having to pay for the additional hours of continuous peaking.

Mr. CANNON. As I understand it, you said they paid you 42 cents. What is the 42 cents for?

Mr. WRIGHT. No; under the present companies' contracts our payments to the companies are 42 cents, and under the new contract it is 40 cents.

Mr. CANNON. That is the result of merely a change in the contracts?

Mr. WRIGHT. Yes, sir; that is correct.

Mr. CANNON. In other words, your new contract gives you a 2-cent advantage?

Mr. WRIGHT. That is correct.

Mr. CANNON. What does the company get out of it?

Mr. WRIGHT. The company gets peaking power at the Government's peaking rate, which it has for utilization without capital investment or restriction at a lower cost than it could probably produce it itself, and at the same time at a cost that more or less reimburses the Government for its production.

Mr. CANNON. What is the intrinsic cost?

Mr. WRIGHT. The intrinsic cost is the cost of the dams and the operation of them and the main lines to get the power to the company.

Mr. CANNON. Reduced to dollars and cents, what would that be?

Mr. WRIGHT. It would be 1 cent per kilowatt-hour for 150 hours.

Mr. CANNON. How does that compare with your previous arrangement?

Mr. WRIGHT. Our previous arrangement was about 9 mills if we made an outright sale of 150 hours, but because we did not put a monetary value on the previous arrangement and swapped mules for horses, we had almost as good an arrangement before as we have now, when we put the monetary value on it.

Mr. CANNON. Will you give us some comparable figures? We have the 40 cents and the 42 cents. Give us cost figures both as to the old arrangement and as to the new arrangement.

Mr. WRIGHT. If I understand your question, Mr. Chairman——

Mr. CANNON. Yes. We are trying to compare the advantage to Southwestern under the old and the new contract, and we are trying to compare the advantage to the utilities under the old and new contract.

Mr. WRIGHT. I would say that there is no advantage to the utilities under the new contract.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. WRIGHT. We previously delivered to the utility companies 200 kilowatt-hours with each kilowatt of capacity exchanged with them but because of the drought situation, we have reduced the amount of delivery to them to 150 hours with each kilowatt.

This 150 hours with each kilowatt of capacity is worth more to the company per kilowatt-hour than the 200 hours because it is higher on the rate curve. Power is worth approximately $1.20 per kilowatt per month, and about a 2-mill energy charge on the main grid. So, if you have 150 hours, the rate is 10 mills per kilowatt-hour and if you have 200 hours, the rate is 8.25 mills.

This change in the amount of delivery to the companies actually gave them a higher advantage on the rate curve that almost offset the increase in price.

Mr. CANNON. What is that advantage converted into dollars and cents?

Mr. WRIGHT. The advantage converted into dollars and cents, is the 40 cents a month that I spoke of under the present proposed contract, the 42 cents per kilowatt per month under the other.

Mr. CANNON. You may proceed.

NEW TEXAS POWER & LIGHT CO. CONTRACT

Mr. WRIGHT. For the information of the committee I would like to leave with you copies of the new contract amendment between the Texas Power & Light Co. and the Government, and copies of the new contract amendment between the Oklahoma companies and the Government, and copies of the new contract between the Government and Soutwestern Gas & Electric Co. with this understanding: The Texas contract has been approved by the Department and signed by the company and the Government. The Southwestern Gas & Electric contract has been approved by the Department and signed by the Government, and the company.

The Oklahoma contract has been signed by the company and has been submitted by Southwestern Power Administration to the Department for approval. All of the contracts have their rate schedules which are the identical rate schedules that are available to preference customers. Our charges to the companies and all people will now be the same rate schedule and will be submitted to the Federal Power Commission.

Mr. CANNON. This committee got the impression that the Texas contract was not so advantageous as the contract which has been in force up to this time, or up to the time the Texas contract was adopted.

Do you care to make any statement as to that at this time?

Mr. WRIGHT. Yes. I think it is much more advantageous, Mr. Chairman. Under the present Texas contract we have a withdrawal right for service of preference customers of 20,000 kilowatts. That is the maximum right of withdrawal that the Government has, and under the new contract with no increase in delivery to the Texas company, the Texas company has given us a withdrawal right of 30,000 kilowatts, an increase of 50 percent, and that is the total firm capacity the Government has for delivery to the company. They are letting us have it all back all firmed up. Our increase in revenue is changed from a return of 7.55 cents to a return of 9.2 cents.

Mr. CANNON. What, then, was the basis, Mr. Wright, of the opposition to the adoption of the Texas contract by other localities? We found definite objection to the adoption of the Texas contract.

Mr. WRIGHT. You are thinking of an old direct sale in the first Texas contract because there was no monetary value assigned to the exchange. There has been no objection whatsoever that I know of to this new contract where complete monetary values for all of the exchange are assigned.

Mr. CANNON. Is that the only distinction between the old and the new Texas contracts?

Mr. WRIGHT. That, plus the added withdrawal that Texas has allowed the Government to have under the contract.

SYSTEM INTEGRATION

Now, this [indicating] cannot be placed in the record, Mr. Chairman, but I would ask the members of the committee to look at it with me. It is a series of charts. It is not what might happen or what could happen or anything else, but it is the picture of integration as it actually exists in the Southwestern Power Administration area today.

Mr. CANNON. Can you supply a copy for the permanent files of the committee?

Mr. WRIGHT. I have a copy, sir, for each member of the committee.

Mr. CANNON. Very well.

Mr. WRIGHT. If you will look at the charts a moment with me, they may look mystifying, but they are not.

The chart on the right-hand side shows the load that the SPA system carried by hours on January 26, 1957. You will notice that certain areas of load are indicated and that the very large area of load indicated, Mr. Chairman, is the Missouri area. That is where the most of the SPA load is at the present time. We show the areas because that has some control over where you must get this power by virtue of the isolation of your generating points from those areas.

Where we got the power for that day is shown by hours on the left-hand chart and the bottom plant is the Western Electric Farmers' generating plant at Anadarko.

The next plant is the Central plant, and the next plant is the N. W. at Missouri City. The next plant is the Northeast Missouri Corporation at Palmyra. The next is the power we exchanged and purchased from the Oklahoma companies. Then, and then only, do you find after we have supplied all the load you can from your sources, do you find the hydrogeneration turned on. You will note that the first hydrogeneration turned on was the Bull Shoals, and that Fort Gibson carried a very small amount and that Blakeley Mountain carried the big peak.

The significance of this is that under this arrangement the Central Electric Power plant at Sho-Me ran 24 hours a day at full capacity which it could never do under isolated operation.

Farmers Western ran almost 24 hours a day at full capacity; Northwestern ran almost 24 hours a day at full capacity, and the Oklahoma comapnies and the Arkansas Power & Light Co. took our power on peak.

While these charts have weekly summaries and everything else, I would show you only one other chart, and that would be the third one down, which is a Sunday. If you will look at the Sunday, you will notice that practically all of the Sunday load can be carried by thermal generation, and that even on Sunday we were able to load the thermal generation of the area.

Mr. CANNON. Off the record.

(Discussion off the record.)

ARRANGEMENTS FOR ADDITIONAL GENERATION AND TRANSMISSION

Mr. WRIGHT. I would like to discuss very briefly with you our new plans. I would like to say that these new plans of operation in the Southwest have been developed through extreme cooperation of the Department with Southwestern during the past year, and extreme cooperation of the generating and transmission cooperatives, as well as the REA, and companies of this area.

We know we need to be interconnected, and we know that we have to schedule our generation as these charts indicate the advantages of it.

We also know that the Government cannot assume a total responsibility of supplying all the power someone else needs when the Government power production is a production of surplus in energy at flood-control projects. Therefore, was there any way in which that could be done? That was the problem. Was there any way that we and the local group could find an answer so they could find a way to put in whatever power the Government did not have without the Government assuming some responsibility for the investment, and we have found that way.

The way is this: We have five generation and transmission co-ops out there, and we will take as an example the load growth of Sho-Me and Central which requires that they put in additional generation at this time that they could not buy from the Government. The Government does not have it except to the extent of hydropower that could be put with steam power to serve them.

Mr. CANNON. You have ample power?

Mr. WRIGHT. We have ample power for the peak.

Mr. CANNON. And when Table Rock comes in, you will have an abundance of power?

Mr. WRIGHT. That is counting Table Rock.

Mr. CANNON. This plan includes Table Rock?

Mr. WRIGHT. Yes, sir; that is right.

Mr. CANNON. When will Table Rock go into production?

Mr. WRIGHT. The first unit at Table Rock is scheduled for operation at the end of 1958, and the total plant should be in operation in 1960.

Mr. CANNON. You are taking that into consideration, then, in making this statement?

Mr. WRIGHT. Yes, sir. We are asking the Congress for the money to build the lines necessary to get Table Rock into our system. You might say "why did you not think of that before?" Originally, Table Rock had an installed capacity of 84,000 kilowatts. It now has a capacity of 200,000 kilowatts, and the line we have will not move all of it. Therefore, we have to have one more line. No one else has lines to move it, either.

Mr. CANNON. This additional requirement is due entirely to the fact that you underestimated at the beginning the amount of power that would be produced at Table Rock?

Mr. WRIGHT. The project in the beginning was designed for a different amount than it now is, Mr. Chairman. They found they could successfully put in almost twice as much capacity as they originally thought they could put in.

Mr. CANNON. This 200,000 kilowatts is the maximum amount which could under any system be developed?

Mr. WRIGHT. That is correct.

This is the solution we have arrived at: The cooperative generating and transmission program has faced the problem, as you all know, I am sure, of having to put in little units that are expensive. If Central will put in a big unit, the Government then can take the hydro capacity that it has been utilizing for Central at its maximum need and back down on that about two-thirds, utilizing it for someone else for the years that the Central load is building back up.

The advantage to the Government will be in the Government's ability to shift its power from one co-op to the other.

Furthermore, the Department of the Interior has developed in the Southwest an idea of the Government furnishing standby capacity to these isolated generating plants for a proper payment of a capacity charge—just our regular charge, with a minimum bill, which is of such a nature that these people can take it and use it. So, that Central contract with the Government will develop into a contract where Central itself furnishes the thermal where the Government furnishes a varying amount of hydro with them and with others and they need it to go with their thermal, and every time our load growth gets to the point where they need a new unit, Central and these others can put it in to handle it without the Government buying the total output of the plant by varying its hydro input into this system.

Furthermore, as this happens, we are developing an arrangement of paying a transmission charge, Mr. Chairman, in lieu of a fixed lease payment, where the payments will be made in accordance with the use of the system by the cooperatives and the Government.

Mr. CANNON. That is, for the cooperatives' transmission system?

Mr. WRIGHT. That is correct. Therefore, the co-op has its own transmission system and runs its own business and the Government pays for whatever use of the transmission system it makes with its power just as we do with the company.

Mr. CANNON. Such power as the co-ops supply is exclusively thermal?

Mr. WRIGHT. That is correct. This, to me, is the greatest thing that has happened in the Southwest since I have been down there.

Mr. CANNON. I take for granted, then, that you are considering abandoning the present lease contracts?

Mr. WRIGHT. No, sir. The present lease contracts will be amended and we are working on the amendments now. Where the payments, instead of being in the form of a lease payment, is concerned, the payment will be a fixed transmission charge which as far as the Government is concerned, will diminish as the cooperative gets additional use of the system with its own facilities and it will be such as to enable the cooperative to finance and carry on its business without the Government taking the whole obligation over.

Mr. CANNON. Who will operate the lines?

Mr. WRIGHT. The cooperative. We are not operating them now, the cooperative is.

Mr. CANNON. Could this change in system operate to the disadvantage of the cooperatives under any future contingency?

Mr. WRIGHT. No, sir; and I would tell you if I saw a single danger in this. I think it is highly to their advantage because it enables them to plan for the expansion of their system to meet the increased load, and to put the extensions in the substations when they are needed, and not have to be gambling with the Government, as to whether we can or cannot put in another transformer. In other words, they run their own business.

But, if the Government uses those things, the Government will pay for them.

Mr. CANNON. Will this arrangement encourage them to put in additional capital investment?

Mr. WRIGHT. If they need it.

Mr. CANNON. They may not need it.

Mr. WRIGHT. If they do not need it, they will not put it in.

Mr. CANNON. With this change, they will be compensated correspondingly?

Mr. WRIGHT. That is correct. However, to the extent their own thermal power moves over it, the Government has not the total obligation. That was the thing which caused some criticism in the original G. and T. contracts. The obligation now is jointly shared in proportion to the way it is used. It permits them to put the generation in that they need, in addition, when they need it if the hydro is not there for them.

It permits them to assume the local utility responsibility with the Government furnishing the standby and the hydro peaking power with proper payment for the utilization of the facility which the Government is making.

REREGULATING DAMS FOR MUNICIPAL AND INDUSTRIAL WATER SUPPLY

I have one more new thing that probably is not any of my business, but I am famous for talking about those things, and I think this committee ought to become aware of it: By building these dams in the Southwest you have created a great water resource that has a potential beyond any conception in the original purposes of these reservoirs.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. WRIGHT. For example, I would like to refer to the Denison Dam in regard to what I just said:

The Denison Dam has sufficient water to supply the needs of 25 million urban people. No studies, I believe, were made at the time the dam was built as to how the water should and could be used, because the water was not needed.

But gradually, as water conditions and water uses increase—and they are going to increase the need of it very rapidly—people are going to need the water that Denison Dam can provide.

Dallas made an unforgivable error when they ran into a water emergency. Instead of going below the Denison Dam where they had good water with 300 parts of salt per million, they go up to the upper end where the saltiest streams in the Southwest are running into the reservoir, and they pump water with as much as 2,500 parts of salt per million.

Therefore, they had an undesirable water supply during the past water emergency in Dallas. The water below Denison Dam in my judgment, gentlemen, is perfectly usable by anyone for any purpose, domestic, irrigation, or anything else you can think of. I ask this committee to think about the problem of the utilization of these waters without the destruction of either the flood control, the irrigation, the power or navigation or any other feature of this reservoir. That involves a very simple thing in my judgment, which should be incorporated in the integration of the power setup in the area by putting a very small regulating reservoir in the river channel, which has already been done at McGee Bend Dam before it was ever built in south Texas. You can regulate the output of the dam.

This water may be taken by pumping during offpeak periods and pumped with offpeak power at very low cost from local electric utility companies, to whoever needs it, anywhere.

Now, insofar as Denison Dam is concerned——

Mr. JENSEN. You mean "whoever needs the water?"

Mr. WRIGHT. Yes, sir; whoever needs the water.

There is a divide running between the Red River and the Trinity River. The divide runs about 15 miles south of the dam so that the water could be pumped up to the divide and utilized by anyone in the north Texas area and likewise on the Oklahoma side from this very small regulating reservoir below the dam without a single purpose of the dam being destroyed.

Mr. CANNON. Is consideration being given to that at this time?

Mr. WRIGHT. There has not been, sir, so far, but it is something on which we are receiving requests, and there are many problems in connection with it because towns are now beginning to ask, and Congress to pass, bills allocating certain storage of water in these reservoirs for use by towns.

Now, that is fine, but if you use it before it runs through the generators, you are obviously affecting one of the original purposes, and you are obviously affecting navigation if you do not reregulate the water.

My whole purpose in mentioning this is because a water problem is developing with these reservoirs which none thought of as water storage reservoirs, but rather as flood-control reservoirs. In other words, when you conceived them, their greatest use was not going to be supplying people with water.

Now, the Texas Power & Light Co., for example, would love to put in at this regulating reservoir a big steam plant and use that steam power on peak for their own load and the off-peak power to pump

your water for the cities and others at a very minimum cost and that, gentlemen, is the best pump-back unit that this United States could ever have.

Mr. CANNON. Is it too late for use in connection with the Denison Dam?

Mr. WRIGHT. No, sir; no. Oh, no.

It is not too late for any project. With reference to a big reservoir, the main body of water in it is runoff water. We got Denison full in about 1 week out of rain. There is not any salt in that water.

Mr. CANNON. You mean it was filled by surplus runoff?

Mr. WRIGHT. Yes, sir; big, heavy floodwaters. The bulk of the salt in the water in the reservoir comes in from these low flowing streams. All of you know when a little creek is just barely running, the water is not fit to drink, but if you take the floodwaters and store them and purify them, there is no better drinking water at all.

Mr. CANNON. In other words, a lot of alkali water?

Mr. WRIGHT. Yes. Just from the streams running into the reservoir you can tell by these very Indian names that there is a lot of salt water coming into the reservoir. There are creeks named Little Salt, Big Salt, Muddy Salt, and Grey Salt, for instance.

Mr. CANNON. Off the record.

(Discussion off the record.)

Mr. WRIGHT. The Washita River in Oklahoma brings in a tremendous amount of very pure water, but normally you not only could wade across it, but you would have an awful time getting it in time of drought.

Mr. CANNON. It has an excess of mineral?

Mr. WRIGHT. Yes, sir. In time of what I call even normal flow there just is not any. In other words, it just stands around, but when one of these big rains comes, that is when you get this water.

Of course, Dallas is not worried about water now, because they have a 5-year supply of water.

Mr. RABAUT. On account of this flood?

Mr. WRIGHT. Off the record.

(Discussion off the record.)

Mr. CANNON. In this process which you recommend here on the part of the Government would that make it possible for the Government to put in any additional hydro generators?

Mr. WRIGHT. It might well do so in the future, by working in combination with a large steam plant, and by wiring your penstocks. You might get a higher peaking capacity. However, the main thing is that you would not deprive your present generators of the water you are now using.

I do not recommend anything but this: This problem has not been studied——

Mr. CANNON. There has been no survey made with that in view?

Mr. WRIGHT. There have been no studies made of the way to utilize the water of these reservoirs for domestic and other uses. I think it ought to be studied by the appropriate agencies of Government that know their business in this field, such as the Corps of Engineers, the Bureau of Reclamation, the Geological Survey or whoever they are, before we get to a point when it is too late.

Mr. CANNON. None of them have made such a survey up to this time?

Mr. WRIGHT. None of them have actually come to Congress and said "We think the way that Denison's water can be used is by building or having built these things, and to do that, the city of Dallas ought to be building so and so, and we ought to build so and so," or "we need to build nothing," or whatever it is.

There are no plans.

Mr. CANNON. You have never unofficially at any time made any such suggestion to any of these agencies?

Mr. WRIGHT. No, sir, because I do not have any authority to make such suggestions.

Mr. CANNON. I said "unofficially."

Mr. WRIGHT. No, sir. I have tried to stir up some interest in Dallas quite recently because I saw the mud Dallas was pumping out of the upper end of Denison Dam and the clear water they could get below the reservoir.

They are pumping 275 feet on the upper end, and I think they would have to pump but about 260 feet on the lower end.

Mr. CANNON. That would be a fertile field for such suggestions.

Mr. WRIGHT. I worked on this, but to do this, because there are several States involved, and because of the tremendous impact on the Government use of this reservoir, in my judgment the Government agencies are going to have to develop a general plan for this thing, or should, because this is Government water.

The water in that lake is your water. There has been a bill passed to allocate 13,000 acre-feet for the city of Dennison, and I believe a bill is in Congress, or has passed Congress for 25,000 acre-feet for the city of Sherman. Therefore, if there are 10,000 Dennisons and Shermans, what are you going to run through the generators?

Mr. CANNON. And, every year this demand becomes increasingly insistent?

Mr. WRIGHT. It will because, of course, people are going to get drinking water. They may take a rifle, but as you know, in the West they are going to get drinking water, one way or the other. It is a desparate situation, and they should have the water. I maintain that is the proper use of it, if we can still get it through this generator before they use it for this purpose. I am very much in favor of this idea of pumping back of peak power capacity which this does. You know that now, Mr. Chairman, I am sure, that below St. Louis the Union Electric Co. is contemplating a tremendous project under which they would simply run the water down in the daytime to get peaking capacity and pump it up at night with offpeak power to run back again the next day.

Well, you get this, and this scheme by letting the company handle its own peak load with thermal capacity and then at night use our thermal capacity to pump this water to whoever needs it, you have the same kind of project without building a thing. We already have the transmission lines to take the power out. So, you know you can bring it back in from thermal plants. I think the possibility is there, and it ought to be studied.

I would like to add only one comment, sir, and then I am through:

I think I am setting some kind of a record before this committee this year. I have been coming before congressional committees continuously since 1943. I have never missed a congressional hearing in either House in which this agency has participated. I have

conducted them all. I can say to you that during the past year I have received more assistance and help from the Assistant Secretary for Water and Power of the Department of the Interior than I have had in all the years I have operated Southwestern Power. He has helped us develop during this last year an understanding and a full understanding with the generating transmission cooperatives and other groups these arrangements which I believe offer great possibilities of success. The only problem left in the Southwest today is this problem of rates. I will say to you very simply that if the investment allocated to power under present authority or rules for allocation, and if the investment must be repaid, then the new rate schedule is the one in my judgment to have.

If the investment were changed, obviously, some other rate schedule might be proper, and that is the only single thing that I feel we have a problem left on outside of being good operators, tending to our business and trying to operate as economically as we know how.

I thank the committee for your attention, and if there are any questions, I will be pleased to try to answer them.

STATUS OF RATE INCREASE PROPOSAL

Mr. CANNON. Mr. Wright, you know a proposal to increase utility rates is always a red flag. It usually indicates either inefficiency in administration or a desire to profit unduly at the expense of the consumers.

What is the status now of your proposal to increase rates?

Mr. WRIGHT. The rates have been submitted by the Department of the Interior to the Federal Power Commission with the necessary financial and pay-out studies to indicate that if the allocations to power in the amount of approximately $200 million are to be repaid, the rate schedule proposed by the Department must be placed into effect with all customers of the Government.

The Federal Power Commission has not yet acted on those rates.

Mr. CANNON. Apparently, since your last appearance before this committee, you have changed your proposal as to an increase in rates.

What are the changes between your present position and the position which you indicated to the committee the last time you were before us?

Mr. WRIGHT. The changes, primarily, Mr. Chairman, occur in the form of rates. As we discussed these rates with all interested people and studied them carefully as to their effects upon all our customers, we developed a proposition of placing the discount on the capacity rather than on the kilowatt-hours of energy so that the capital investment part of the thing which is the primary basis for this rate increase and which is reflected and recovered by the demand charge in rates, would be the place that would be fairer in accordance with what the investment that was necessary to serve.

We have a rate on the main grid. Anyone who is willing to take service there will pay exactly the same rate which is $1.20 per demand. If they want to have it delivered from the main grid out to lower centers, we find that our average cost of doing that in the long pull in the life of this is going to be about 40 cents a kilowatt. So, the demand for that for anyone who takes that kind of service will be $1.60. The energy charge remains the same. Previously, this dis-

count had been contemplated to be on the energy charge. That is the basic change in the rate.

Mr. CANNON. In your first proposal your rates on the G. & T. cooperatives were much higher.

Mr. WRIGHT. Yes, sir, they were higher.

Mr. CANNON. Apparently in your readjustment you have lowered the rate on the G. and T.'s. Just what is the consideration there?

Mr. WRIGHT. I would like to expand the G. and T. customer to any customer who took it at load center; in other words, cities, G. and T. distribution cooperatives, or even private companies that bought at load centers had a higher rate under the first proposal than the rates in the last one because of the readjustment to demand charge and because of all of the discussions and all of the hearings and all of the study and Work in attempting to be as fair as we knew how and we worked out this new rate schedule which created that advantage.

Mr. CANNON. You have adjusted them downward?

Mr. WRIGHT. Yes, sir.

FINANCIAL OPERATIONS

Mr. CANNON. With reference to this talk about Southwestern running in the red, Mr. Wright, what occasions this discussion, or what gives the impression or why should there be an impression that you are running in the red?

Mr. WRIGHT. We are running in the red. There is no question about that, and there is a very simple analogy, I believe, which I can give you in regard to that.

Mr. CANNON. When did that situation begin? Previously you have kept in the black.

Mr. WRIGHT. When the bill which we had to pay was changed, or what we were going to have to pay for was changed. We thought in the initial instance——

Mr. CANNON. Give us the whole story in connection with that, please.

Mr. WRIGHT. I am going to.

Mr. CANNON. How was this bill changed?

Mr. WRIGHT. I am going to give you the whole story:

Initially, the rates were based on the idea that the amount of dams that would have to be paid for would be somewhere between $125 million and $150 million—somewhere in that neighborhood—on the basis of a certain form of allocation of cost to power.

Now, during all of this period the Department of the Army, the Federal Power Commission, and the Interior Department over a whole 10-year period were studying various ways to get uniform cost allocation and back in 1946 and 1948 there was developed a certain method of cost allocation by a Government committee called Separable cost remaining benefits.

The three agencies of Government finally agreed on this method in 1954, but I may say that the Department of the Army and the Federal Power Commission had been pretty well in agreement on it several years before that time. The Interior Department had been the one, I believe, still in disagreement. So, we were in the position of having operated with an interim rate for a few years and I may say operating without a plan or program until we developed one and this committee knows what we have gone through to develop this program.

We were new at it, and you gentlemen were new at it. But the biggest mistake I ever made was coming before this committee the first time and saying we ought to take a big giant step instead of taking the first step. I admitted that mistake, but we were in the position for several years of not having the facilities to deliver this power. We had to sell it where we could sell it for what we could get for it. However, the main thing that changed our game was something like this: I pay $15,000 for a house, and I pay on the house for 10 years. Then I find out that this thing I thought was $15,000 was $30,000. So, I am in the red on my house payments.

Obviously I am, and obviously I have to increase my house payments to meet this change. In addition to this, there is no use kidding ourselves, things cost more than they cost 10 years ago, and we have had those added costs to bear.

We have tried to execute every economy that I know of in this operation to offset costs. You will find almost a continuous trend of operating 10 percent below estimates in Southwestern Power.

That is our target. If we can find some way to operate 10 percent cheaper, we are going to do it, but we do not dare when we come in here and ask you for money bet on the fact that we are going to be able to do that.

Mr. CANNON. You know your customers, Mr. Wright, represent people who are in the lowest economic echelon in the Nation.

Mr. WRIGHT. The largest block of our consumers are rural people.

Mr. CANNON. They live on the farm.

Mr. WRIGHT. That is right.

Mr. CANNON. While, as you say, everything has been increasing, their income has been decreasing and everything they produce has been decreasing in price. They have less surplus, less reserve, and they are less in a position to pay an increased rate than any consumer of power in the Nation, so that very properly you propose to give them power, and power with them is almost as indispensable as it is in the city now, very properly you propose to give them the lowest rate at which you can operate, and you propose to operate without a profit.

100-YEAR PAYOUT PERIOD

If you were given a longer period to pay off, would that solve this difficulty and enable you to supply the farmer with power as cheaply as you have heretofore, especially in view of the fact that he is less able to pay than he has been for many years?

Mr. WRIGHT. It undoubtedly would solve some of the problems. Whether it would solve all of them we would have to make studies to see.

Mr. CANNON. You have made no study of that, Mr. Wright, as to what would be the effect of lengthening the period to pay off?

Mr. WRIGHT. Yes, sir. We made appearances last year before the committee and we said if the pay-out period were extended to 100 years undoubtedly rate adjustments could be made and that would require no substantial increase in rates.

Mr. CANNON. What is the basis of opposition of extending the period even to 100 years?

Mr. WRIGHT. I don't know of any opposition.

I know that the people charged with the responsibility of setting the pay-out period have agreed on a pay-out period of 50 years.

Mr. CANNON. Would you say 50 years would be insufficient to bring this thing in line?

Mr. WRIGHT. Fifty-year pay-out period about the obligation we have requires a rate increase.

Mr. CANNON. With 100 years it would not require a rate increase?

Mr. WRIGHT. Probably not. I would want to take a look at that in light of all the new arrangements. We have, as you know, Mr. Chairman, a provision that rates shall be reviewed every 5 years in all of our contracts, so that if we find any way to do this better, immediately the rates would be revised to include that.

Mr. CANNON. You would say, however, that the prospect is, without detailed work on the adding machine and without detailed computation, that 100 years would make it possible for you to repay entirely the Federal investment and interest on that investment?

Mr. WRIGHT. That is correct, without a substantial change in the rate structure.

SIGNIFICANCE OF "OPERATING IN THE RED"

Mr. CANNON. Is it also true that the Government's method of fiscal operation, as well as the requirements of the laws under which you operate, are such that you could well be in the red on an annual basis which would be offset in another year, and this is particularly true in the early years when additional generation is being added piecemeal to the system?

Mr. WRIGHT. Yes; that is absolutely correct, and it is even more correct when you visualize that Bull Shoals Dam was designed for 8 generating units and we have only 4 in there. We have to develop the entire system to its ultimate capacity before we can be expected actually to meet the full burden of the financial obligation.

Mr. CANNON. Table Rock has all the units from the beginning?

Mr. WRIGHT. That is correct. Bull Shoals has only half.

Mr. CANNON. You are running at half potential capacity at Bull Shoals?

Mr. WRIGHT. That is right. Denison had only 1 unit to start with, and Norfork had 1 unit. Another has been added. You can put 4 units at Denison, 4 at Norfork, and probably 5 in either one of them.

Mr. CANNON. As you say you are undoubtedly running in the red. You have been in the red for how long?

Mr. WRIGHT. I think we started going in the red about the time this drought and the initial integration arrangements with the generating and transmission cooperatives, which like anything else was a newborn baby and expensive until you get them to adult life, about the time they hit us, which was about the same time. I would judge it was in about 1952.

Mr. CANNON. Since you are not a profitmaking concern, since it is not necessary for you to run continually in the black in order to carry out your assignment, there is really no very alarming significance in the fact that you are in the red for any given year, when you are certain ultimately to be able to pay out?

Mr. WRIGHT. No, sir; I don't think there is anything alarming about it if you recognize what you are doing and you set some target date at which you expect to meet certain things.

In that connection, I would like to make this arrangement with this committee: We have a full pay-out study in detail for the 50 years according to this rate study.

If this goes through, and I would like to furnish this committee with that pay-out study and report to you every year how we came out on that year compared with the way the pay-out study says we were going to come out, and if we are not doing as good as we said and doing better, then you will know it.

TEXAS CONTRACT

Mr. CANNON. Let us go back to the Texas contract. How much did you pay in the fiscal year 1956 and how much did Texas pay you?

Mr. WRIGHT. We didn't pay Texas anything net. They paid us. I think perhaps I have that figure for 1956. In 1956 the Texas Co. paid us $624,000.

Mr. CANNON. How much did you pay Texas?

Mr. WRIGHT. We paid Texas $479,000. We didn't pay them. We balanced out the difference and the check was made in favor of the Government; $479,000 for the company against $624,000 for the Government.

Mr. CANNON. Under the revised contract, you will realize additional revenue?

Mr. WRIGHT. That is correct, but may I say we will now start making payments to the company for this reason: We will be delivering to the company 5,833,000 kilowatt-hours, average, a month. They will be delivering us 10,950,000 hours a month, almost twice as much. So, for those additional hours there will be some slight payment to the company each month.

Mr. CANNON. Now convert that to dollars and cents.

Mr. WRIGHT. I don't believe I can do that, Mr. Chairman. I will be glad to furnish it for the record.

Mr. CANNON. You may submit it for the record.

Mr. WRIGHT. I will be very glad to do that.

(The matter referred to follows:)

Monthly and financial arrangement under proposed amendment to the Texas Power & Light contract No. 177

[Assuming customers of the Government are withdrawing the full 30,000 kilowatts, allowed under the proposed amendment, at an annual load factor of 50 percent]

Expenses:	
Payment to company:	
30,000 kilowatts times $1.60	$48,000
4,500,000 kilowatt-hours times $0.002	9,000
6,450,000 kilowatt-hours times $0.003	19,350
Total	76,350
Adjustment for diversity: Approximately 10,950,000 kilowatt-hours times $0.0002	2,190
Total	78,540
Revenue:	
Payment from company (minimum): [1]	
35,000 kilowatts times $1.20	42,000
5,833,333 kilowatt-hours times $0.002	11,666
Total	53,666
Balance due company	24,874
Payment from preferred customers (proposed F–1 rate):	
30,000 kilowatts times $1.60	48,000
4,500,000 kilowatt-hours times $0.002	9,000
6,450,000 kilowatt-hours times $0.003	19,350
Total	76,350
Minimum net return to Government	51,476

[1] Does not include any sale of secondary energy or excess capacity.

Mr. WRIGHT. I have one other statement about rates.

Mr. CANNON. Heretofore Texas paid you. Now, under this revision, you pay Texas?

Mr. WRIGHT. We pay Texas. We get almost twice as much power, at least 50 percent more power, from them now. We increase from 20,000 kilowatts to 30,000 kilowatts.

Mr. CANNON. When you market that additional power you will really have received more than is shown here in this tabulation?

Mr. WRIGHT. Yes; much more power per preferred customer. We have given preferred customers around 7 million hours a month now. We will then be giving them nearly 11 million hours.

Mr. CANNON. Turning to construction, Mr. Wright——

Mr. WRIGHT. Before you get off rates, I would like to say one thing we have done that the committee would like to know. We are as concerned as anybody in the world about the effect of this rate increase on people.

Mr. CANNON. It is disturbing, the very idea of a rate increase on all these farmers, when they are laboring under tremendous disadvantage, when they are receiving less income than they have received for many years and with little prospect of that being increased, and when they are under the necessity of paying tremendous increases in the cost of everything they buy, their cost of living, and cost of production, it is very disturbing for them. They react very unfavorably when we mention any increase in electric rates.

Mr. WRIGHT. Mr. Chairman, we are fully aware and fully in sympathy with that. I say in that connection only that out of this thing we have tried to bring sufficient advantage of integration and in other ways to some extent offset that, and, to my belief, most of the distribution cooperatives and consumers of power will, because of these additional benefits, not have this new rate materially affect their present rate structure. I am very pleased to report that to you.

Mr. CANNON. That is reassuring, and we take for granted we can depend on that in the final readjustment.

Mr. WRIGHT. That is correct, sir.

Mr. CANNON. Turning now to construction——

G & T COOPERATIVES

Mr. JENSEN. Mr. Chairman, I would like to have placed in the record the name of the five G. and T. cooperatives with whom you have interconnections and with whom you have contracts in order to make your testimony complete. Put them all together at one place.

Mr. WRIGHT. We will be glad to put their names in. I think it appears in the record and we will be glad to insert them.

(The matter referred to follows:)

1. N. W. Electric Power Cooperative
2. Western Farmers Electric Cooperative
3. Central Electric Power Cooperative
4. KAMO Electric Cooperative
5. Sho-Me Power Corp.

Mr. JENSEN. I want to say, Mr. Wright, I have enjoyed your presentation very much. You have a thorough knowledge of the job which you are doing, and as always I am intrigued by your understanding of all these matters. It is not always that the head of a department comes before the committee and answers all the questions himself. You are in the habit of doing that and it is very stimulating to the committee.

You have had a tremendous problem down there. Dr. Fenton, Mr. Kirwan, and I are on the Interior Committee which used to have this agency. I think it is 15 years——

Mr. WRIGHT. You have been on this committee ever since I have been appearing before you.

Mr. JENSEN. The outlook was very dark.

Mr. WRIGHT. Yes, sir.

Mr. JENSEN. It appears to me now that you are further along the way and you have cleared up many problems that were almost insurmountable it seemed at one time. I am gratified to know that

you are on the way to getting these integrated contracts signed. You certainly have been patient.

Mr. WRIGHT. I appreciate your praise, Mr. Jensen, because many times I have been the whipping boy and I appreciate it from you as much as anybody. I have a picture in my office entitled "To My Good Friend and Sparring Partner Across the Table."

Mr. JENSEN. Well, you know, I find as I go through life I have made good friends. About the best friends I have in the world are men I have disagreed with quite vigorously. It seems it always comes out when you talk plainly to each other and keep nothing from each other that Americans will finally work out a problem and it will work out to the best advantage of all the people. I think that statement holds true in relationships you have had with me and that you have had with the committee.

SELF-SUPPORTING OPERATION GOAL

I would like to ask one more question, Mr. Chairman. Could you at this time anticipate for sometime in the future when this project which you administer will be self-supporting?

Mr. WRIGHT. Yes, sir.

Mr. JENSEN. Can you anticipate that now?

Mr. WRIGHT. Yes, sir; we can.

Mr. JENSEN. Would you care at this time to say when you think that time will arrive?

Mr. WRIGHT. I think within 10 or 15 years this project will be carrying its full weight and that it will begin picking up from then on the deficits which have accrued during this initial program.

I plan to give this committee, Mr. Jensen, a detailed estimate of just that, what I call a pay-out study. I plan to let you have each year a detailed statement to show a comparison of how we did that year compared with what we said we were going to do in that pay-out study, so that if we are missing the ball in any particular respect, not only we but the Congress of the United States will know where, and if you desire to do something about it different from what we are doing you can tell us so.

Mr. JENSEN. Every member of this committee knows that I have been one of the stanchest advocates for the conservation of our liquid gold, which is called water. I am interested in your proposal to utilize that water which is not needed for development of hydro power to be used by the people, because certainly we have become very water conscious in the last few years. We have had these droughts and there was a time some years back when many people throught the Interior Subcommittee Appropriations Committee was spending too much money for irrigation projects and water control projects. Now we don't hear much about that any more since the droughts have come upon us.

I can understand your concern and your interest in the suggestion you made, Mr. Wright, and I will say now that I hope the proper departments of the Government will follow through and make the study that you suggest.

Mr. WRIGHT. I don't think they will because there are several departments involved, and I think unless Congress indicates to them that you want——

Mr. JENSEN. I think we will have to if we are to get anything done.

Mr. WRIGHT. I don't think they will do it otherwise.

Mr. JENSEN. Certainly water is a valuable resource. When one doesn't have enough water, believe you me he will do almost anything to get it. I think we should do everything we can, in looking into the future, to see to it that this precious liquid gold does not rush to the sea unused, so I will keep a continued interest in your proposition, Mr. Wright.

Mr. WRIGHT. I feel a few dollars on studies will save $15 million worth of mistakes in the use of this water.

Mr. JENSEN. Thank you, Mr. Chairman.

BLAKELY MOUNTAIN DAM

Mr. KIRWAN. I understood you to say that the Blakely Mountain Dam is furnishing the bulk of the power?

Mr. WRIGHT. It is furnishing the tip-top peak. It has more flexibility there than any other.

Mr. KIRWAN. How do the Government and the Arkansas Power & Light Co. get along on that?

Mr. WRIGHT. Fine.

Mr. KIRWAN. Did they object to it when the Government was going to build that dam?

Mr. WRIGHT. After it was built they said not. They said they had been supporting it for 40 years. I was there at the dedication of the dam and the master of ceremonies who dedicated the dam was Mr. C. Hamilton Moses, president of the Arkansas Power & Light Co. His opening remark was that for 40 years he had been fighting for that Government dam there.

Mr. KIRWAN. They were fighting for it?

Mr. WRIGHT. Yes. I was glad to learn what he had been doing.

Mr. KIRWAN. Did he testify to that respect in front of the committee?

Mr. WRIGHT. It was new information to me.

Mr. KIRWAN. I ran across Mr. Moses 2 years ago. I was going up to see the Blakely Mountain Dam. He asked me to go up with him but I went up the next day. He opposed the dam before the committee.

It was surprising to me but it was a delightful surprise, because this is the only thing in Congress, the hearings on Southwestern Power, that I read once a year. I remember people coming in from each power company telling us this never could be a success. They fought us every step of the way.

Here this morning you tell me you are almost rooming together, and I hope you do. The power companies and the Government should do that. It is good news to me after the way they fought it down through the years. I am glad to know everything is pretty in Kansas City.

The proof is this: The Government and utilities and industries can survive together when they work together.

Mr. WRIGHT. That is right.

Mr, KIRWAN. That is the concrete proof.

Mr. WRIGHT. The first time I ever appeared before this committee a precedent was set when the Speaker of the House came before the

committee and told you gentlemen that there was one purpose of Southwestern Power, and that was to work out this problem. We have never varied from that.

Mr. KIRWAN. Work out the problem and get along. We are building a new country and all of that.

I read a funny thing yesterday when I spent the day in the office. Daniel Webster was recognized as one of the great five Senators. In his address to the Senate he stated he never would vote to spend another dime west of the Mississippi on anything. What he was hollering about then was to spend $1 for the railroads.

It was nothing but a jungle of beasts west of the Mississippi River, he said. Daniel Webster made that statement. I have the whole facsimile of his speech. Never would he spend another dime to build a railroad there.

There was only one part of this God's country and that was in the East, and there was nothing west of the Mississippi River worth spending a quarter on.

They have not changed much on Southwest Power from Daniel Webster's time until your time in getting funds.

I again repeat they are the only hearings I ever read each year. I take time out to read them.

Mr. WRIGHT. Thank you, sir.

Mr. KIRWAN. They finally saw they could work together and can develop a Nation when they work together.

There is no part of this country where they are bigger than the Government. When they realize the Government is the biggest, that we can work with them or they work under us, then and only then can we work together.

Mr. FENTON. After an absence of a few years I am glad to be back again to hear you discussing Southwest Power, Mr. Wright.

Mr. WRIGHT. Thank you, Doctor.

Mr. FENTON. I am very much interested, in the statement you made concerning utilization of water for purposes other than power is increasing.

Mr. WRIGHT. There is no question of my believing that. I was raised on an irrigation project and sat on a head gate with a Winchester when I was 10 years old. I would have killed any man who tried to open the head gate.

AREA OF OPERATION

Mr. FENTON. In how many States does Southwest Power operate?

Mr. WRIGHT. Six states, sir. We have very little operation in Kansas other than the effect of our operation in Kansas, but there is increasing interest in possible added integration.

We operate extensively in Missouri, very extensively in Oklahoma, a considerable amount in Arkansas, and that would be on the increase, very extensively in Texas, and practically none except the side effects in Louisiana.

Mr. FENTON. In this list you presented to the committee, are these the dams that you now have in operation?

Mr. WRIGHT. Yes, sir.

Mr. FENTON. Eight dams?

Mr. WRIGHT. Yes, sir. There are under construction three more—Table Rock, Greer's Ferry, and McGee Bend.

Mr. FENTON. The total amount of those projects you have now in estimated investment is $329,820,462?

Mr. WRIGHT. That is correct. I don't know how much of that is charged to power because Table Rock is not added. After Table Rock is added to that investment about four-sevenths of the total investment is allocated to power.

Mr. FENTON. Do you have any thermal plant to operate from?

Mr. WRIGHT. No, sir. We purchase and exchange only. I originally requested in my first giant step certain thermal plants. I was told by the Congress you were not interested in it and you have never seen me ask again.

Mr. FENTON. I have heard a lot of controversial issues discussed.

Mr. WRIGHT. The whole committee was unanimous on that issue.

Mr. FENTON. I am glad to note that the gentleman from Iowa has mellowed with age according to your description.

Mr. WRIGHT. I won't buy that, Dr. Fenton. I think on occasion he can go a pretty fast round yet.

100-YEAR PAYOUT PERIOD

Mr. FENTON. I was further impressed with the statement you made in answer to the chairman's question about increasing the pay-out period from 50 to 100 years.

In that period of time there would be a great amount of obsolescence, would there not?

Mr. WRIGHT. That is entirely possible. I don't know there would be any more chance of obsolescence, Doctor, in 100 years than there would in 50. I don't know. In our lifetime more has happened than has happened in 50,000 years of civilization before, so I don't know what will happen then.

Mr. FENTON. In our period of time we have seen a great deal of change.

Mr. WRIGHT. That is right. I have a boy who talks about gadgets I cannot even understand.

SILTING

Mr. FENTON. What about silting?

Mr. WRIGHT. We have no reservoir in the Southwest in operation now or contemplated under construction now which has an estimated life of less than 150 years.

Mr. FENTON. You took into consideration the silting problem?

Mr. WRIGHT. Yes. When the Arkansas River comes into this system, which it will undoubtedly do in the next 2 or 3 decades, the Keystone Dam and the Eufaula Dam will be the silt control dams to the Arkansas River. In my judgment those dams will silt up but not until the riverbed builds up behind them for at least two or three hundred miles to the depth of the silt in the reservoir.

When water hits the end of a reservoir it stops. That tends to build the riverbed back from where it hit the reservoir on back. When that bed builds back then it dumps it farther into the reservoir so it is not only in the reservoir but the entire river channel. In the case of the Parker Dam on the Colorado it was back for 250 miles.

Mr. FENTON. Referring to a statement made here in the discussion between you and the chairman that farmers' income is becoming less each year——

Mr. WRIGHT. The chairman made that statement. I didn't say anything about that.

Mr. FENTON. With all the Federal benefits being given agriculture, do you think the farmers will continue for the next 100 years to be less better off than they are now?

Mr. WRIGHT. I am not an expert on farming, Mr. Congressman. I couldn't answer that question. I don't know how bad off they are or how well off they are now.

Mr. FENTON. In considering a change of rates that should be taken into consideration. With the increase in population would there not be more demand for food products from farms, and so forth, so it would affect farm income?

Mr. WRIGHT. I never have been concerned about a food surplus, not as long as population is increasing as it has been and as it is.

Mr. FENTON. It would affect their income.

Mr. WRIGHT. I never expect to starve to death.

Mr. ANDERSEN. Before our Subcommittee on Agriculture Appropriations it has been estimated that by 1975 this country of ours will not produce sufficient food for its own use and that we will be short 115 million acres of good productive land to feed the people of America. That is 1975 which is not too far off. That is due to the fact we will probably have about 40 million more people at least in these United States by that time.

From that viewpoint there is no question in my mind, gentlemen, but that as we go along, it may be 7, 8, or 10 years from now, we will no longer be troubled with surpluses of food in the United States, and from that time on there will be in my opinion an era of good business, so to speak, for the farmers of America in supplying this food, because they will more or less become like the farmers in Great Britain who today, producing only 43 percent of the food for Great Britain as they do, practically have the people of Great Britain by the throat so far as setting prices for what they produce. We don't want to see that come to pass in this country.

Mr. FENTON. I have not mentioned food surplus.

Mr. ANDERSEN. I was not reflecting on you at all, Doctor.

Mr. FENTON. I said with the increase in population there would be a demand for food, and will not farmers have to produce more food, and will that not affect their living standards?

Mr. WRIGHT. In my judgment they will have to produce more food. In my judgment it should affect their living standards and they should be in the enviable position Mr. Anderson says, but they will do neither one if you don't take care of this water. There won't be anything to drink much less anything to do with the sewage.

You know that the Government is loaning money today to build a powerplant that will use as condensing water effluent out of a sewage disposal plant.

Mr. FENTON. In Philadelphia over the past 50 years that I know of they have been doing that.

Mr. WRIGHT. That is right.
Mr. FENTON. They are doing that in the East, not only the West.
Mr. WRIGHT. This will be a direct pipe.

POWER RATE INCREASE

Mr. FENTON. Aside from all that, what is the average annual kilowatt-hour used per farm customer under your jurisdiction?
Mr. WRIGHT. It varies from about 115 kilowatt-hours a month to 290.
Mr. FENTON. What is the average annual cost per kilowatt?
Mr. WRIGHT. I would say between 3 and 6 cents per kilowatt-hour or an average annual charge varying from $42 to $210 per year.
Mr. FENTON. If the proposed increase in Southwest Power rates were raised, what would be the annual increased cost to the average farm customer?
Mr. WRIGHT. In the nature of 1 or 2 mills a kilowatt-hour or from about $2.75 to $5.75 per year.
Mr. FENTON. I think that is all, Mr. Chairman.

AFTERNOON SESSION

Mr. CANNON. The committee will be in order.
Mr. Fenton?
Mr. FENTON. I just want to ask a few questions, Mr. Chairman.
Mr. Wright, from your answers to my questions this morning as to the average energy used by farm customers, and the cost of such power, I sort of gathered that the proposed increase in Southwest Power, if passed on to the individual farmer, would result in added annual costs to the farmer running from possibly a dollar and a half to $8
Will you please check on those figures for the record?
Mr. WRIGHT. I think that I testified, Dr. Fenton, that the average bill was something in the order of 3 to 6 cents, and that the increase in cost per kilowatt-hour to the average farmer would be in the order of 1 to 2 mills per kilowatt-hour. He uses anywhere from 115 to 290 hours a month. The man who uses 115 at 2 mills a month would be 23 cents and the man who uses 240 would be 48 cents a month. Something in that order.
Mr. FENTON. Will you just check it, if you will?
Mr. WRIGHT. Yes.

CONSTRUCTION

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Construction in progress	$146,859	$1,052,109	
2. New construction and additions	1,032		$1,480,000
Total obligations	147,891	1,052,109	1,480,000
Financing:			
Unobligated balance brought forward	−1,389,612	−1,052,109	
Unobligated balance carried forward	1,052,109		
Unobligated balance no longer available	189,612		
Appropriation			1,480,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
Total number of permanent positions	7	6	20
Full-time equivalent of all other positions			1
Average number of all employees	5	6	18
Number of employees at end of year	6	6	15
Average salaries and grades:			
General schedule grades:			
Average salary	$6,110	$5,786	$5,786
Average grade	GS–8.1	GS–7.8	GS–7.9
01 Personal services:			
Permanent positions	$33,137	$32,500	$91,796
Positions other than permanent			1,800
Regular pay above 52-week base	166		404
Payment above basic rates	1,831		1,000
Total personal services	35,134	32,500	95,000
02 Travel	3,449	4,500	12,000
03 Transportation of things	515	1,000	1,000
04 Communication services		400	400
05 Rents and utility services	73	100	100
06 Printing and reproduction	81	100	100
07 Other contractual services	683	56,000	10,000
08 Supplies and materials	13,560	7,509	5,400
09 Equipment	61,930	559,000	451,000
10 Lands and structures	32,466	391,000	900,000
11 Grants, subsidies, and contributions: Contribution to retirement fund			5,000
Total obligations	147,891	1,052,109	1,480,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation			$1,480,000
Balance brought forward:			
Unobligated	$1,389,612	$1,052,109	
Obligated	157,070	140,736	90,000
Total budget authorizations available	1,546,682	1,192,845	1,570,000
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations			1,110,000
Out of prior authorizations	164,225	1,102,845	90,000
Total expenditures	164,225	1,102,845	1,200,000
Unobligated balance no longer available (expiring for obligation)	189,612		
Balance carried forward:			
Unobligated	1,052,109		
Obligated	140,736	90,000	370,000
Total expenditures and balances	1,546,682	1,192,845	1,570,000

Mr. CANNON. Taking up construction, we will include in the record at this point pages 2, 3, 4, and 6 of the justifications.

(The matter referred to follows:)

Construction

Appropriation Act, 1957	0
Prior year balance available	$1,052,109
Total available, 1957	1,052,109
Decreases: Construction in progress	1,052,109
Base, 1958	0
Increases: New construction and additions	1,480,000
Budget estimate, 1958	1,480,000

Analysis by activities

Activities	Adjusted appropriation	Decreases	Base 1958	Estimate, 1958	Increases	Page, table	Reference justification
1. Construction in progress							
2. New construction and additions				$1,480,000	$1,480,000	3	4
Total				1,480,000	1,480,000		

CONSTRUCTION, SOUTHWESTERN POWER ADMINISTRATION

Program summary—Fiscal year 1958

Activity and project	Estimated cost	Program fiscal year 1958
New construction and additions:		
Plant interconnection project:		
Table Rock-Springfield line, 154 kilovolts	$900,000	$900,000
Springfield substation addition	100,000	100,000
Subtotal	1,000,000	1,000,000
Miscellaneous projects:		
Anadarko, transformer	55,000	55,000
Bentonville switching station	45,000	45,000
Mobile unit substations	225,000	225,000
Subtotal	325,000	325,000
General plant and equipment	35,000	35,000
Administration and engineering	120,000	120,000
Total	1,480,000	1,480,000

JUSTIFICATION—NEW CONSTRUCTION AND ADDITIONS

I. Plant interconnection project

Project	Estimated cost	Program, fiscal year 1958
Table Rock-Springfield line, 154 kilovolts	$900,000	$900,000
Springfield substation addition	100,000	100,000
Total	1,000,000	1,000,000

The estimate of $1 million for this project provides for the construction of a proposed 154-kilovolt transmission line, approximately 42 miles in length, from Table Rock Dam to Springfield, Mo., together with the necessary facilities to interconnect with the Table Rock Dam substation, which is being constructed by the Corps of Engineers. The estimate also provides for additional facilities at the Administration's Springfield, Mo., substation for termination, control, and fault protection of the proposed transmission line.

Recent calculating-board studies of the existing transmission lines in the Missouri area indicated that, with the projected loads for 1960, these transmission lines would not have sufficient capacity to carry the power generated at the Table Rock Dam to load centers in the Missouri area. The Table Rock project is scheduled for completion in the early part of fiscal year 1960. Due to these circumstances, it is essential that the proposed line and related facilities be constructed in order for the Administration to market and deliver the power generated at the Table Rock Dam to load centers, through interconnection with the Administration's transmission facilities at Springfield, Mo.

Project: Mobile unit substations:
Estimated cost $225,000
Program, fiscal year 1958 225,000

The estimate of $225,000 for this project provides for the acquisition of 2 mobile unit substations, 69 kilovolts to 7.2/12.5 or 2.4/4.16 kilovolts, 3,000 kilovolt-amperes. These mobile units will make it possible to perform emergency and routing maintenance on transformers, oil circuit breakers, and substation equipment without interrupting customer service. These units will also permit the delivery of power and energy to customers under emergency conditions, or upon short notice, pending the acquisition or construction of permanent facilities.

III. General plant and equipment

Estimated cost	$35,000
Program, fiscal year 1958	35,000

The estimate of $35,000 provides for the acquisition of materials and supplies for use in maintenance of the transmission system such as poles, conductor, crossarms, hardware, and other maintenance items. The estimate also provides for the purchase of trucks, tractors, and other mobile equipment used in operation and maintenance of the transmission system.

IV. Administration and engineering

Estimated cost	$120,000
Program, fiscal year 1958	120,000

This estimate covers the cost of personal services, travel, and other expenses in connection with carrying out the construction program for the fiscal year 1958. This amount includes $5,000 for civil-service retirement costs.

Total, new construction and additions	$1,480,000

WESTERN FARMERS G. & T. CO-OP ADDITIONAL GENERATION

Mr. CANNON. Mr. Wright, in that connection, may I ask you with respect to the Anadarko project, is it true that the western farmers are planning the installation of additional generation?

Mr. WRIGHT. Yes, sir. This transformer, Mr. Chairman, is for this purpose: The city of Anadarko ran into serious difficulties, needing power above the generating capability of their own municipal plant, just as many other towns have done. We had no way to serve them except through Farmers Western System and the line of a local distribution cooperative. They agreed to let us use that, which included one of their substations, until they needed the capacity of the substation. That substation, the distribution substation, is becoming overloaded as their load and the town load increases and to serve the town we have to install this transformer in our substation which is at the city limits, or right at the edge of it. That is the purpose of that transformer. We did not have the 69,000-kilovolt voltage at that point.

Mr. CANNON. Will you take this additional generation into the leased operating contract?

Mr. WRIGHT. It will be integrated with us, but the co-op will base-load it on their own load and with us having the 2 units under contract that are now under contract, their unit will be the first base load and we will use these 2 units as the next base load, so that it will be utilized completely in integration just as if we bought it and sold it right back. We will decrease our hydro sale to the cooperative sufficiently to let them absorb immediately the entire new generating units.

Mr. CANNON. Do you have enough demand to use the entire product?

Mr. WRIGHT. Yes, sir.

Mr. CANNON. When will it become operative?

Mr. WRIGHT. They have not gotten the loan yet, but if they are to be granted a loan within the next 6 months, I would say that within 2 years thereafter they could have it on the line. I believe they have already taken bids for the turbine before they asked for the money. I think they have taken bids to find out what their turbines would cost them.

Mr. CANNON. What are the farmers' wishes in that respect? Do they wish to take up the new contract or do they prefer to go ahead with the old contract?

Mr. WRIGHT. They want this new one very badly and they want the additional generation very badly.

Mr. CANNON. There is no difference of opinion on that?

Mr. WRIGHT. No, sir; we are in full agreement.

MOBILE UNIT SUBSTATIONS

Mr. CANNON. You are planning to buy two mobile unit substations?

Mr. WRIGHT. Yes, sir; we find this to be true: Had we had these mobile substation units, we would have been able to enter into emergency service with a half dozen people within the last year and we would have avoided very serious power difficulties from them and and would have been able to maintain service from certain areas, where service was lost, because of the lack of such equipment. For example, the cooperative at Salem, Ark., lost its entire substation. It blew up one Saturday morning. If we had a mobile substation, we would have had that cooperative on the line in 3 or 4 hours. We could have hooked the city of Fulton up. We could have hooked the city of Anadarko when we lost their plant last year. We could have hooked the city of Bentonville 6 months ago instead of 6 months later, the 1st of July. The equipment that takes time is the transformers and substations. You can get the rest of it in pretty quickly and these things will be available for everybody operating out there.

Mr. CANNON. You have never had any of these substations?

Mr. WRIGHT. I thought I got one about 5 years ago, but what I got was a transformer-trailer. The first time we tried to go down the road with it, we got ourselves in the pokey trying to go down with too much weight in it.

Mr. CANNON. You have had an opportunity to observe the operation?

Mr. WRIGHT. Yes, sir; Northwest Co-op has had one that is an excellent thing for them.

Mr. CANNON. You do not think we could get along without it?

Mr. WRIGHT. I think we could get along without it, but I think it would be very false economy.

Mr. CANNON. You would overlook opportunities both for service and for economy?

Mr. WRIGHT. Yes, sir; and for alleviation of emergency difficulties with everybody we work with there.

Mr. CANNON. Any further questions, gentlemen? If not, gentlemen, we will proceed to "Operation and maintenance" and insert the usual tables and justification material.

Operation and Maintenance

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. System operation and maintenance	$716,941	$500,000	$521,000
2. Power contracts and rates	68,768	95,000	111,000
3. General administration	249,885	405,000	413,000
Total obligations	1,035,594	1,000,000	1,045,000
Financing:			
Unobligated balance no longer available	214,406		
Appropriation	1,250,000	1,000,000	1,045,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
Total number of permanent positions		105	141	138
Full-time equivalent of all other positions		8	8	8
Average number of all employees		105	143	140
Number of employees at end of year		108	147	146
Average salaries and grades:				
General schedule grades:				
Average salary		$6,110	$5,786	$5,796
Average grade		GS-8.1	GS-7.8	GS-7.9
Ungraded positions: Average salary		$4,560	$4,627	$4,627
01	Personal services:			
	Permanent positions	$545,066	$733,060	$726,324
	Positions other than permanent	19,319	20,500	20,400
	Regular pay above 52-week base	2,231		3,026
	Payment above basic rates	28,361	32,440	32,250
	Total personal services	594,977	786,000	782,000
02	Travel	81,095	96,000	96,000
03	Transportation of things	1,594	2,000	2,500
04	Communication services	21,565	24,000	25,000
05	Rents and utility services	16,567	18,000	18,000
06	Printing and reproduction	1,493	1,500	2,000
07	Other contractual services	274,984	25,000	26,000
08	Supplies and materials	37,757	40,000	40,000
09	Equipment	4,405	6,000	7,000
11	Grants, subsidies, and contributions: Contribution to retirement fund			45,000
13	Refunds, awards, and indemnities	331	500	500
15	Taxes and assessments	826	1,000	1,000
	Total obligations	1,035,594	1,000,000	1,045,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$1,250,000	$1,000,000	$1,045,000
Obligated balance brought forward	290,643	45,790	60,000
Restored from certified claims account		30	
Total budget authorizations available	1,540,643	1,045,820	1,105,000
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	989,957	940,000	980,000
Out of prior authorizations	272,482	45,820	60,000
Total expenditures	1,262,439	985,820	1,040,000
Balance no longer available:			
Unobligated (expiring for obligation)	214,406		
Other	18,008		
Obligated balance carried forward	45,790	60,000	65,000
Total expenditures and balances	1,540,643	1,045,820	1,105,000

Analysis of Adjusted Appropriation

Operation and maintenance

Activity	Total available, 1957 (1)	Increase in base due to Government's contribution to the retirement fund (2)	Adjusted appropriation (3)
1. System operation and maintenance	$500,000	$21,000	$521,000
2. Power contracts and rates	95,000	6,000	101,000
3. General administration	405,000	18,000	423,000
Total	1,000,000	45,000	1,045,000

Analysis by Activities

Operation and maintenance

Activities	Adjusted appropriation	Decreases	Base, 1958	Estimate, 1958	Increases
1. System operation and maintenance	$521,000	----------	$521,000	$521,000	----------
2. Power contracts and rates	101,000	----------	101,000	111,000	$10,000
3. General administration	423,000	$10,000	413,000	413,000	----------
Total	1,045,000	10,000	1,035,000	1,045,000	10,000

Operation and Maintenance

GENERAL STATEMENT

The estimate of $1,045,000 for fiscal year 1958 is an increase of $45,000 over the appropriation for fiscal year 1957 of $1 million. The increase of $45,000 is due to the Government's contributions to the retirement fund. The 1958 estimate is based on operating and maintaining the transmission system, carrying on power-marketing negotiations, providing customer services, and administering the contracts between the Administration and certain generation and transmission cooperatives.

The 1957 appropriation carried out the operation and maintenance program under the following activities and amounts: System operation and maintenance, $500,000; power contracts and rates, $95,000; and general administration, $405,000.

The estimate of $1,045,000 for the operation and maintenance program for fiscal year 1958 will be executed under the following activities and amounts: System operation and maintenance, $521,000; power contracts and rates, $111,000; and general administration, $413,000.

OPERATION AND MAINTENANCE

System operation and maintenance, $521,000

The estimate of $521,000 for fiscal year 1958 is an increase of $21,000 over the $500,000 available for fiscal year 1957. This increase results from the Government's contributions to the retirement fund.

In order to accomplish its function of marketing surplus power from Federal hydroelectric generating plants in the southwestern power area the Administration has constructed 1,032 miles of high voltage transmission lines, with appurtenant facilities, powerload centers and to points of interconnection with other utility systems. Power will be marketed from 8 Federal hydroelectric generating plants and 3 steam generating plants owned and operated by generation and transmission cooperatives, in the fiscal year 1958.

Five of the hydroelectric plants are directly interconnected by the transmission grid system of the Administration. Through interconnections with the systems of the generation and transmission cooperatives and the private utility systems, the power generated at these plants and the three steam generation plants owned by the cooperatives, is integrated with power generation from steam plants of the private utilities. This obtains the maximum benefit from integration of hydroelectric and steam generated power.

The power produced from the three other Federal hydroelectric plants which are now in operation, and which are isolated from the main grid system of the Administration is marketed through contractual arrangements with private utility systems and generation and transmission cooperatives. This power is transported over the transmission facilities of these entities, for their own use as customers of the Administration, and for service to other customers of the Administration.

The complex problems encountered in the operation of these vast interconnected systems make it necessary to maintain a staff of highly trained technical personnel, and to operate and maintain the transmission system of the Administration with the maximum of efficiency to assure dependable service throughout the southwestern power area.

In order to furnish and assure reliable service over its system, the Administration employs three line-maintenance crews which are stationed at Ada and Muskogee, Okla., and Doniphan, Mo. These crews patrol, maintain, and perform minor construction and replacement work on the following miles of line:

	Miles
Ada, Okla., crew	318. 7
Muskogee, Okla., crew	354. 2
Doniphan, Mo., crew	327. 5

Substation maintenance crews are located at Springfield, Mo., and Muskogee, Okla. These crews maintain and perform minor construction and replacement work on substations, meter and relays, and communication equipment located over the entire transmission system of the Administration, and also maintain metering communication, and protective equipment owned by the Administration, but located at 8 federally owned hydroelectric plants, and at 15 substations owned by interconnecting utility systems.

Load dispatchers are located at Springfield, Mo., substation, and are responsible for scheduling and dispatching power to meet load demands while coordinating to the best advantage the loading of the various hydroelectric plants operated by the Corps of Engineers, together with steam generating plants owned and operated by the generation and transmission cooperatives. In order to perform this function properly, it is necessary to maintain a 24-hours-a-day, 7-days-a-week schedule. A substation operator is stationed at the Gore, Okla., substation in order to switch power during peak-load hours.

In addition to the maintenance and operation of transmission facilities it is necessary to maintain a continuous program of clearing rights-of-way on transmission lines. This preventive maintenance is performed in order to avoid outages that interrupt the power service, resulting from brush fires and tree growth on the rights-of-way.

Funds are also included under this activity for the engineering and supervisory staff, which furnishes the executive and staff direction of engineering planning, and technical supervisory functions in connection with the operation and maintenance of the transmission system, and the coordination and integration with other utility systems. In addition, this staff participates in the study of power resources and requirements in order to assure dependable electric service to customers and interconnecting systems.

Also, the staff in accordance with existing regulations makes studies of the revenue potential from multiple purpose projects to be constructed by the Corps of Engineers, in order to determine the feasibility of installing power facilities in such proposed projects. When these projects have reached the preliminary planning stage the staff participates with the Corps of Engineers in making studies of the design of the power transmission installations, such as circuit breakers, transformers, telemetering relays, supervisory equipment and associated equipment for dispatching and control of the power produced from such projects.

The following tabulation indicates the estimated obligations for 1958 by organizational units under this activity.

Organizational unit	Number	Amount
Division of operations and engineering:		
Chief's office	4	$28,320
Branch of engineering and planning	8	57,810
Branch of maintenance	42	199,893
Branch of system operations	8	45,837
Total permanent	62	331,860
Deduct lapses	3.3	17,636
Net permanent	58.7	314,224
Positions other than permanent	7.8	20,000
Regular pay above 52-week base		1,276
Payment above basic rates		29,500
Total personal services		365,000
Travel		60,000
Other objects		96,000
Total, system operation and maintenance		521,000

POWER CONTRACTS AND RATES, $111,000

The estimate of $111,000 for fiscal year 1958 is an increase of $16,000 over the $95,000 available for fiscal year 1957. This increase of $16,000 includes $6,000 for the Government's contributions to the retirement fund, and $10,000 for additional personnel and related costs required to perform the necessary functions of this activity.

This estimate covers funds for personal services and other costs of the Division of Rates and Customer Service. The staff of this Division carries out all marketing agreements with preferred customers and private utilities for the purchase, sale, and interchange of electric power and energy.

In order to perform the function outlined above, it is necessary for this staff to conduct negotiations and develop contracts for the sale, exchange, transfer, and purchase of power and energy, and for the lease of power system facilities, together with arrangements for the wheeling of Government power over the various transmission systems. To make continual analyses of power rates to insure Government's investment in both production and transmission facilities. To calculate rates and prepare pay-out studies for submission to the Federal Power Commission for approval. To perform customer services under all contractual agreements. Conduct studies of cost allocations made to power by Corps of Engineers. Conduct studies of the market for power to be produced from future projects, and the revenues that would be derived from sale of such power.

The tabulation on the following page indicates the number of positions and the estimated personal services and other costs of this Division that are considered necessary to carry out this activity for the fiscal year 1958.

Organizational unit	Number	Amount
Division of rates and customer service	15	$92,320
Deduct lapses	.6	3,675
Ner permanent	14.4	88,645
Regular pay above 52-week base		355
Payment above basic rates		1,000
Total personal services		90,000
Travel		15,000
Other objects		6,000
Total, power contracts and rates		111,000

GENERAL ADMINISTRATION, $413,000

The estimate of $413,000 for fiscal year 1958 is an increase of $8,000 over the $405,000 available for fiscal year 1957.

This estimate for this activity includes the cost of personal services, travel and other general administrative expenses chargeable to electric operations of the Administration, but not directly chargeable to a particular electric function, such as production, transmission sales and customer services, etc. These costs cover

the executive direction and service functions necessary to accomplish the overall program of the Administration.

Additional costs not pertaining to the direct electric operations of the Administration are included under this activity because of action by the Congress in providing funds for the reactivating of contracts with certain generation and transmission cooperatives which placed an additional administrative burden on the Administration. These costs include additional administrative and technical personnel, together with related costs, that will be necessary to properly administer the contracts between this Administration, and the generation and transmission cooperatives.

The net increase of $8,000 results from the Government's contribution to the retirement fund of $18,000, and a decrease of $10,000 in the estimated requirements for personal services in connection with the reactivation of contracts with certain generation and transmission cooperatives.

The tabulation on the following page indicates the total estimated obligations for 1958 by organizational units under this activity.

Organizational unit	Number	Amount
Office of the Administrator: Immediate office	6	$48,830
Division of Administrative Services:		
Chief's office	4	27,820
Branch of budget and finance	18	99,085
Branch of office services	17	79,995
Total, Division of Administrative Services	39	206,900
Division of operations and engineering:		
Branch of engineering and planning	5	21,780
Branch of maintenance	10	50,191
Branch of operations	1	7,465
Total, Division of Operations and Engineering	16	79,436
Total permanent	61.0	335,166
Deduct lapses	2.4	11,605
Net permanent	58.6	323,561
Temporary employment		400
Regular pay above 52-week base		1,289
Payment above basic rates		1,750
Total, personal services		327,000
Travel		25,000
Other objects		61,000
Total, general administration		413,000

Mr. CANNON. I believe your "Operation and maintenance" estimate here is $1,045,000?

Mr. WRIGHT. Yes, sir.

Mr. CANNON. You are asking here, Mr. Wright, for an increase of $45,000 mainly to cover retirement fund costs. It struck me that in the amount of your budget, an item of $45,000, while a very substantial amount, was comparatively small and that it might be that you could absorb these small increased costs, or do you think so?

Mr. WRIGHT. I think that if I did, Mr. Chairman, if I attempted to absorb it, I would leave some things undone that need to be done. If we can, we will.

If the committee feels strongly enough that we ought to try to do it, we will, but if we can find these engineers and technical people that we have been trying to get a hold of, we have an awful lot of

work that needs to be done and needs to be done badly. This might even need to be done for safety of operation.

Mr. CANNON. Under the circumstances, you feel that the expense indicated is $45,000?

Mr. WRIGHT. Yes, sir; I do.

CONTINUING FUND

Mr. CANNON. On your general statement, Mr. Wright, as to the continuing fund for which you have an estimate from the Bureau of the Budget of $5 million—we will insert at this point pages 22 to 26 in the record.

(The matter referred to follows:)

Amounts available for appropriation

	1956 actual	1957 estimate	1958 estimate
Unappropriated balance brought forward	$2,296,684	$4,654,314	$3,218,907
Unobligated balance returned to unappropriated receipts		727,593	900,000
Receipts	8,357,630	7,137,000	6,360,000
Total available for appropriation	10,654,314	12,518,907	10,478,907
Covered into miscellaneous receipts		−2,900,000	−2,900,000
Appropriation	−6,000,000	−6,400,000	−5,000,000
Unappropriated balance carried forward	4,654,314	3,218,907	2,578,907

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. Purchase of energy and wheeling charges	$3,529,263	$3,182,000	$2,810,000
2. Rentals for the use of transmission facilities	1,743,144	2,318,000	2,190,000
Total obligations	5,272,407	5,500,000	5,000,000
Financing:			
Unobligated balance brought forward	−300,000	−300,000	−300,000
Unobligated balance no longer available	727,593	900,000	
Unobligated balance carried forward	300,000	300,000	300,000
Appropriation	6,000,000	6,400,000	5,000,000

Obligations by objects

	1956 actual	1957 estimate	1958 estimate
07 Other contractual services	$5,272,407	$5,500,000	$5,000,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$6,000,000	$6,400,000	$5,000,000
Balance brought forward:			
Unobligated	300,000	300,000	300,000
Obligated	493,940	686,888	500,000
Total budget authorizations available	6,793,940	7,386,888	5,800,000
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	4,585,519	5,000,000	4,600,000
Out of prior authorizations	493,940	686,888	500,000
Total expenditures	5,079,459	5,686,888	5,100,000
Unobligated balance no longer available (expiring for obligation)	727,593	900,000	
Balance carried forward:			
Unobligated	300,000	300,000	300,000
Obligated	686,888	500,000	400,000
Total expenditures and balances	6,793,940	7,386,888	5,800,000

POWER PURCHASES, SERVICE CHARGES, AND RENTAL OF FACILITIES, $5,000,000

Obligations to be incurred during the fiscal year 1958, under the continuing fund, are based upon contractual arrangements for the purchase and sale of power, including service charges for transport of power with private utilities and municipalities in the area, and for the purchase of power and lease of transmission capacity from power cooperatives in the area. Estimated fund requirements by activity are listed.

	Purchase of power and service charges	Rental of transmission facilities	Total
1. Oklahoma utility companies	$450,000		$450,000
2. Central Electric Power Cooperative	320,000	$760,000	$1,080,000
3. Northwest Electric Power Cooperative, Inc	1,510,000	480,000	1,990,000
4. Western Farmers Electric Cooperative	210,000	950,000	1,160,000
5. Sho-Me Power Corporation			
6. KAMO Electric Cooperative, Inc			
7. Others	320,000		320,000
Total	2,810,000	2,190,000	5,000,000

In accordance with a directive from Congress, as expressed in House Report No. 747 on the public-works appropriation bill for fiscal year 1956, this Administration has amended contracts with certain generation and transmission cooperatives to include provisions for the settlement of accounts on a net balance basis. As a result of this action, the estimate of fund requirements for the continuing fund has been reduced from $6,400,000, appropriated for fiscal year 1957, to $5 million for fiscal year 1958.

The estimated fund requirements have been calculated in accordance with provisions within each individual contract and are presented herewith.

1. Payment to Oklahoma utility companies:		
A. Charges from companies:		
Purchase of power:		
17,333,600 kilowatt-hours times $0.004		$69,334
75,000,000 kilowatt-hours times $0.00325		243,750
Service charge: 173,333,600 times $0.00125		216,667
Total charges		529,751
B. Sales to companies: 39,394 times 0.15 times $1.15 times 12		−81,546
C. Amount due companies		448,205
2. Payment to Central Electric Power Cooperative: Charges from cooperative:		
A. Rental payments:		
Transmission investment ($9,748,755)		
$\frac{\$9,748,755}{1,000} \times 4 \times 12$		467,940
Estimated overheads		85,000
Estimated maintenance, operation, and replacement		207,161
Total		760,101
B. Purchase of power:		
Sales to Government:		
124,700,000 kilowatt-hours total:		
115,000,000 kilowatt-hours times $0.006		690,000
9,700,000 kilowatt-hours times $0.003		29,100
Total		719,100
Sales to cooperative: 18,000 times 4,000 times $0.0055	−396,000	
Net due cooperative	323,100	
C. Total		1,083,101
3. Payment to Northwest Electric Power Cooperative, Inc.: Charges from cooperative:		
A. Rental payments:		
Transmission investment ($6,476,459)		
$\frac{\$6,476,459}{1,000} \times 4 \times 12$		310,870
Estimated overheads		39,000
Estimated maintenance, operation, and replacement		125,078
Total		474,948
B. Purchase of power and service charge:		
Sales to Government:		
332,700,000 (kilowatt-hours total $150,000 times 12)		1,800,000
282,000,000 kilowatt-hours (50,700,000 kilowatt-hours times $0.003		152,000
Total		1,952,000
Service charge by cooperative: 35,000 times 4,000 times $0.00235		329,000
Sales to cooperative: 35,000 times 4,000 times $0.0055		−770,000
Net due cooperative		1,511,000
C. Total		1,985,948

4. Payment to Western Farmers Electric Cooperative: Charges from cooperative:	
A. Rental payments:	
Transmission investment ($11,960,277)	
$\frac{\$11,960,277}{1,000} \times 4 \times 12$	574, 093
Estimated overheads	95, 000
Estimated maintenance, operation, and replacement	280, 547
Total	949, 640
B. Purchase of power:	
Sales to Government: 249,600,000 kilowatt-hours times $0.0042	1, 048, 320
Sales to cooperative: 35,000 times 4,000 times $0.0055	−836, 000
Net due cooperative	212, 320
C. Total	1, 161, 960
5. Sho-Me Power Corp.: Charges from cooperative:	
A. Rental payments:	
Transmission investment ($5,131,058)	
$\frac{\$5,131,058}{1,000} \times 5 \times 12$	246, 290
Estimated overhead	67, 314
Estimated maintenance, operation, and replacement	121, 847
Total	435, 451
B. Purchase of power: Sales to cooperative: 50,000 times 4,000 times $0.0055	1, 100, 000
Net due Government	664, 549
C. (No expenditures from continuing fund.)	
6. KAMO Electric Cooperative:	
A. Charges from cooperative:	
Rental payments:	
Transmission investment ($7,449,453),	
$\frac{\$7,449,453}{1,000} \times 4 \times 12$	357, 574
Estimated overhead	47, 000
Estimated maintenance, operation, and replacement	163, 329
Total	567, 903
B. Purchase of power: Sales to cooperative: 26,000 times 4,000 times $0.0055	−572, 000
Net due Government	4, 097
C. (No expenditure from continuing fund.)	
7. Others: A. Purchase of energy: 58,000,000 kilowatt-hours times $0.0055	319, 000

SETTLEMENT WITH GENERATION AND TRANSMISSION CO-OPS FOR 1954

Mr. CANNON. It is our understanding that the Comptroller General has ruled on I believe, November 6, 1956, that the generation and transmission co-op's are entitled to be reimbursed for costs incurred while the lease of power contracts were inoperative during 1954.

We will also put a copy of this decision in the record at this time and I shall appreciate it if you would explain to us just what is involved in this item.

(The matter referred to follows:)

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, November 8, 1956.

B–122254

The honorable the SECRETARY OF THE INTERIOR.

DEAR MR. SECRETARY: Reference is made to letter of August 16, 1956, from the Administrative Assistant Secretary, concerning the claim of the Central Electric Power Cooperative against the Southwestern Power Administration, Department of the Interior, for fiscal year 1954, under contracts Nos. ISPA–305 and 306. The letter, in effect, requests that we reconsider the conclusion reached in letter dated April 6, 1956, to Central to the effect that fiscal year 1954 funds were available to implement the above referred-to contracts. The Assistant Secretary states that, after review and study of the questions involved, the views set forth by the Administrator of the Southwestern Power Administration in his letter of June 13, 1956, are concurred in by your Department, and certain material is submitted in support thereof.

The facts in the case are as follows:

On January 19, 1950, Central entered into two contracts with the Government, acting through the Administrator of the Southwestern Power Administration. The first contract (ISPA–305) provided that Central should construct—out of funds loaned by the Rural Electrification Administration—and lease to the Government for a period of 40 years an electric transmission system. The Government, in turn, agreed to maintain and operate the transmission system for the same period of time and to pay Central rental thereon in accordance with certain formulas defined in the contract which were designed to amortize during the period of the loan the actual cost of the transmission system to Central. Under the second contract (ISPA–306) the Government was to buy the entire output of the steam electric generator plant to be constructed by Central—also out of the REA loan—and the Government was to sell to Central surplus electric power and energy generated at the Government's hodroelectric plants in the area. This contract also provided for monthly payments by the Government to Central for the electric output of the steam generating plant at a rate which would amortize Central's loan (on account of the generating plant) and also cover other costs incurred by Central incident to the operation and maintenance of such plant. Each of the contracts contained a provision to the effect that operation of the contract was contingent on the Congress making the necessary appropriations to enable the Government to carry out the provisions of the agreement. The transmission system of Central was completed prior to June 30, 1953, and pursuant to the contract Central delivered the system to Southwestern and started purchasing electric power and energy from Southwestern.

The act of July 31, 1953 (67 Stat. 262), making appropriations for the Department of the Interior for the fiscal year ending June 30, 1954, provided that—

"Not to exceed $1,200,000 shall be available during the current fiscal year from the continuing fund for all costs in connection with the purchase of electric power and energy, and rentals for the use of transmission facilities."

The statement of the House managers accompanying the conference report (H. Rept. 947, 83d Cong.) on the above-cited appropriation act reads, in pertinent part, as follows:

"Amendment No. 6: Appropriates $1,200,000 instead of $150,000 as proposed by the House and $2 million as proposed by the Senate.

"None of the funds allowed are to be used for the purpose of implementing existing contracts with REA cooperatives which provide for the lease-purchase of transmission or generating facilities. The funds may be used only for the purchase of electric power and energy and the payment of wheeling service charges at rates and in amounts comparable to those paid in the Southwestern Power Administration area under existing contracts based only on use value received with no additional allowance for purchase or lease of facilities. Such arrangements may be made with REA cooperatives in the area but no funds for this purpose are to be available after February 28, 1954."

On the basis of the House managers' statement, Southwestern determined that no funds were appropriated to carry out the terms of contracts Nos. ISPA–305 and 306 and an interim contract was entered into between Central and Southwestern on November 3, 1953. Central evidently entered into the interim contract only because Southwestern had refused to make payments under the other contracts.

Central filed a suit on October 15, 1953, in the United States District Court for the District of Columbia, in which it petitioned the court for summary judgment to direct "that the defendants not refuse or fail to carry out the terms of such

contracts [ISPA–305 and 306] with the plaintiff for the reason that Congress has failed to or refused to appropriate funds" for the fiscal year 1954 out of which the obligations incurred under the contracts might legally be paid. The district court granted Central's motion for a summary judgment on March 29, 1954. The Government appealed from the judgment of the court and on April 7, 1955, the United States Court of Appeals for the District of Columbia, in an opinion reported in 223 F. 2d 623, reversed the judgment of the District Court. This reversal was not on the merits of the case but was, in effect, on the basis that the district court lacked jurisdiction—since the Government had not consented to be sued—on such a matter in the district courts.

The claims and counterclaims of Central and Southwestern were submitted to us for direct settlement by the Southwestern Power Administration on December 3, 1954. By our Claims Division's settlement dated December 1, 1955, there was found due Central—in connection with the above referred to contracts—the sum of $493,939.96 on account of rental payments for the period August 1952 to June 1953, under contract No. ISPA–305 ($66,112.67), and payment for purchase of power and wheeling service charges for the period July 1, 1953, through June 30, 1954, under Interim Electric Service Agreement No. 14–02–001–658 ($427,827.29). The full amount allowed was deposited into the Treasury to collect for power sold by Southwestern to Central.

In explanation of the settlement it was stated, in part therein, as follows:

"Amounts due between the claimant and the Southwestern Power Administration after June 30, 1953, may not be computed under the terms of contracts Ispa 305 and 306 because appropriated funds are not available for implementation of the contracts after that date. Computation of the amounts due from each party to the other for the period July 1, 1953, through June 30, 1954, has been made, therefore, in accordance with the interim agreement of November 3, 1953, No. 14–02–001–658."

Central, by letter dated December 12, 1955, requested that the conclusion that there was no appropriation to carry out contract Nos. ISPA–305 and 306 between it and Southwestern for the period July 1, 1953, to June 30, 1954, be reviewed and further requested that amounts of money due and payable by Central and Southwestern for such period be recomputed on the basis of the terms of the two cited contracts, rather than on the basis of the interim contract No. 14–02–001–658, dated November 3, 1953. Upon careful consideration of the matter, we determined that appropriated funds were available to implement contract Nos. ISPA–305 and 306 and so notified Central by letter of April 6, 1956. As indicated above, your Department has requested reconsideration of this conclusion.

During the years 1949 and 1950, the United States (acting through Southwestern) entered into similar contracts with four other generating and transmission cooperatives, namely N. W. Electric Power Cooperative, Inc., KAMO Electric Cooperative, Inc., Western Farmers Electric Power Cooperative and Sho-Me Power Corp. Two of these cooperatives, N. W. Electric Power Cooperative, Inc., and Western Farmers Electric Power Cooperative have filed claims with Southwestern, similar to Central's, which Southwestern transmitted here for our information.

It is argued in the above referred to letter of Southwestern, dated June 13, 1956, and in the brief of your Department, transmitted with the Administrative Assistant Secretary's letter that:

(1) There were no funds made available in fiscal year 1954, to implement the contracts in question;

(2) There was no performance by Southwestern or the cooperatives during fiscal year 1954 under such contracts, so that it will be impossible to make an accurate accounting between Southwestern and the cooperatives under the lease-purchase contracts;

(3) Our decision of April 6, 1956, cannot be reconciled with our previous decisions bearing on the same questions;

(4) Proposed amendments to the lease-purchase contracts will give the cooperative economic benefits and advantages equal to or greater than those granted the cooperatives under the original contracts.

It is stated in the brief in conclusion that under present circumstances your Department does not believe the claims of the cooperatives should be paid or allowed.

In support of the argument concerning the availability of funds, it is contended, in effect, that it was clear to Southwestern that the amount made available by the Congress in the continuing fund for fiscal year 1954 was not sufficient to implement the lease-purchase contracts and that, hence, Southwestern had no

alternative but to look to the legislative history and the directions of the congressional committees accompanying the bill, including the statement of the House managers, for guidance. It is also contended therein that a reading of the congressional debate on your 1954 appropriation act will leave no question that both the House and the Senate understood the purpose of the House managers' statement and that it was intended to limit the appropriation so that Southwestern would be unable to implement the lease-option contracts. It is further contended that "There seems to be only one conclusion, and that is when the conference report was approved, the Congress also approved the accompanying statement of the House managers thereby adopting as the language of the Congress itself the statement with reference to the $1,200,000."

Concerning the amount made available in the continuing fund, we would like to point out that the legislative history of your fiscal year 1954 appropriation act discloses that $1,200,000 was considered sufficient to implement the generating and transmission contracts for an 8-month period, during which period it appears to have been contemplated that a final solution of the power problem in the area involved would be reached. (See 99 Congressional Record, 9936.) We agree that a reading of the debate upon the appropriation provision involved leaves no question that both the House and Senate understood the purpose of the House managers' statement and that the statement was intended (by its authors, some of the House conferees) to limit the appropriation so that Southwestern would be unable to implement the lease-purchase contracts. However, we do not agree with the conclusion that when the conference report was approved the Congress also approved the accompanying statement of the House managers "thereby adopting as the language of the Congress itself the statement with reference to the $1,200,000." While the statement of the managers on the part of the House accompanied the conference report and the conference report was agreed to by both Houses, there is nothing in the legislative history to indicate that the Congress approved or adopted the statement by the House managers. In fact, such history discloses that some Members of the Senate and House questioned the effect of the House managers' statement. In this connection, note the following statements made on the floor of the House and Senate during the debate on the conference report, as contained in the Congressional Record, volume 99, pages 9937, 9938, 9995, and 9996, respectively:

"Mr. MONRONEY. The contingencies involved are before the Senate only because they are written into the House report, not into the bill itself, which, of course, *as the statutory law will control.* * * *

* * * * * * *

"Mr. MONRONEY. * * *

"As the junior Senator from Oklahoma reads the House report, while it has a bearing on the legislation, *it is not statutory law.* * * *

* * * * * * *

"Mr. MAGNUSON. *So that the record may be clear, the statement of the House managers is not binding upon the Senate. The Senate has not agreed to it. It is merely a statement on the part of the managers of the House.*

* * * * * * *

"Mr. RAYBURN. * * *

"I call attention to the language in the bill and the language here, to see which one of these will be the law. The gentleman has read the wording in the bill and then he has read this statement of the conferees. Which one of these is going to be the law? It is what the conferees say they want done or what is going to be the law?

* * * * * * *

"Mr. RAYBURN. *We would like the language of the bill to be the law* and not some statement made by a bunch of conferees." [Emphasis added.]

It appears from the quoted statements that some Members of the House and Senate did not consider the statement of the House managers as binding on the Congress. Thus, it is doubtful whether the agreement to the conference report indicates the Congress agreed with the statement of the House managers or whether it considered the statement not to be a part of the law and ineffective.

Also, we would like to point out that the language used in the continuing-fund provision in your fiscal year 1954 appropriation act was exactly the same as the language used in the previous fiscal year (1953) and we understand that the continuing fund was used during the fiscal year 1953, to implement contracts ISPA–306 and 306 with Central. To contend that the same language used in the appropriations for 2 succeeding years means something entirely different only could be justified by concluding that the Congress adopted as law the statement of the

House managers in the conference report which as we indicated above does not appear to be the case.

Further, as indicated above, the United States District Court for the District of Columbia held that the $1,200,000 made available in the continuing fund for fiscal year 1954, was available to carry out the provisions of contracts ISPA–305 and 306. While the judgment of the district court was reversed by the United States Court of Appeals for the District of Columbia, the reversal was not on the merits, that is, not on the question of the availability of the funds, but was on the ground that the district court lacked jurisdiction since the Government had not consented to be sued. It is understood that the three judges who heard the appeal indicated orally that they also considered the funds available to implement the lease-purchase contracts.

The language used by the Congress in the continuing-fund provision in your fiscal year 1954 appropriation act is clear, positive, and unambiguous. There is nothing in the language restricting the use of the fund to the purchase of electrical energy and payment of wheeling service charges. It is specifically provided therein that the continuing fund is to be available for rentals for the use of the transmission facilities, and it appears that this would include rent to be paid the cooperatives by Southwestern for lease of the transmission lines. Had the Congress intended to restrict the use of the funds of Southwestern so as to nullify the lease-purchase contracts, effective July 1, 1953, it could have done so by use of appropriate language in the act itself. Although the statement of the House managers accompanying the conference report may indicate an intent on the part of some members of the House conferees to prohibit use of the funds in question for implementing the lease-purchase contracts, such a provision was not enacted into law. Any inconsistency between the language used in a statement on the part of the House managers accompanying a conference report and the language used in a bill as enacted into law by the Congress must be resolved in favor of the language used in the law (Cf. *Pennsylvania R. R. Co.* v. *International Coal Co.*, 230 U. S. 184; *Caminetti* v. *United States*, 242 U. S. 470, 490; *Wisconsin R. R.* v. *Chicago, Burlington & Quincy R. R. Co.*, 257 U. S. 563).

The language of the act itself being clear, any doubt arising only from the effect, if any, to be given to the statement in the conference report which it is doubtful whether the Congress adopted, there seems particularly to be apposite here the language used by the court in the Wisconsin R. R. case cited above, at page 589, as follows:

* * * Committee reports and explanatory statements of members in charge made in presenting a bill for passage have been held to be a legitimate aid to the interpretation of a statute where its language is doubtful or obscure. * * * But when taking the act as a whole, the effect of the language used is clear to the court, extraneous aid like this cannot control the interpretation. * * * *Such aids are only admissible to solve doubt and not to create it.* * * *" [Italics supplied.]

Moreover, the Supreme Court in *Ex Parte Collett* (337 U. S. 55, 61), in applying a similar rule stated:

"* * * The short answer is that there is no need to refer to the legislative history where the statutory language is clear. 'The plain words and meaning of a statute cannot be overcome by a legislative history which, through strained processes of deduction from events of wholly ambiguous significance, may furnish dubious bases for inference in every direction' (*Gemsco* v. *Walling*, 324 U. S. 244, 260 (1945)). This canon of construction has received consistent adherence in our decisions."

In view of the foregoing, we conclude, upon review, that funds made available to Southwestern in its continuing fund for the fiscal year 1954 are available to implement the lease-purchase contracts with the cooperatives.

This conclusion makes it necessary to now consider the following statement contained in the brief of your Department.

"In conformity with the clear intent of Congress, neither Southwestern Power Administration, Central Electric Power Cooperative, nor any of the other generating and transmission cooperatives having lease option contracts and accompanying power contracts with the Southwestern Power Administration, performed any acts or fulfilled any obligations under such contracts during the period in question. The operations and business conducted by the Southwestern Power Administration with the generating and transmission cooperatives were performed in accordance with and under the provisions of interim contracts. * * *"

This issue (of performance) was raised for the first time after we had determined that funds were available to implement Central's lease-purchase contract. No such allegations were made when the claims were sent here by the Administrator

and certifying officer of Southwestern, Mr. Douglas G. Wright, for direct settlement. Central alleges in a brief submitted here, a copy of which is attached, at page 2, that at a conference with Department of the Interior officials they were advised that Southwestern "could not at that time pay Central its obligations under the agreements but would do so promptly if there was a determination that there was an appropriation and that the agreements were enforced. (It was agreed by SPA that the only reason it was not carrying out its obligations under the agreements was because, in its opinion, there was no appropriation)."

It is stated in your Department's brief, in connection with contract performance, that under the lease-option contract with Central (ISPA–305) the cooperative was to lease the transmission facilities to the Government and the Government was required to take physical possession, operate, maintain, repair and provide capital placements for the entire transmission system of the cooperative. It is also reported that under the said contract the Government was permitted to use all the capacity of the transmission system not required to serve Central's load for service to other customers of the Government. We are advised further that, under the interim contracts, the Government did not maintain, operate, repair, or replace or make capital replacements upon or to the transmission facilities and that the Government did not consider facilities available to it for serving new customers and did not add new customers during the period.

It is true that Southwestern did not maintain, operate, repair, or replace, or make capital replacements upon the transmission facilities. However, this cannot be blamed on Central since Southwestern on its own initiative ceased to operate and maintain the lines. Hence, Central apparently took over and operated the lines as provided by the default clause of the lease-purchase agreement. Further, although Southwestern may not have considered facilities available to it for serving new customers and did not add new customers during the period in question, it appears it could have done so under the interim agreement had it wished. This agreement provides, in section 3, as follows:

"(a) The Cooperative shall transmit for the Government over its transmission system such amounts of hydroelectric power and energy as the Government requires for the service of *any* of its customers, including the Cooperative, and such amounts of energy as the Government purchases from the Cooperative. Such hydroelectric power and energy shall be furnished by the Government and received by the Cooperative at the point of interconnection between the Government's facilities at the Bull Shoals Dam Project and the Cooperative's transmission system, and shall be delivered by the Cooperative to any point or points designated by the Government on the Cooperative's transmission system, at such voltage or voltages as are mutually agreeable to the parties hereto." [Emphasis added.

It is clear that, under the above-quoted provision, the cooperative was required to transmit for the Government such amounts of power and energy as the Government required for the service of "any of its customers." There appears to be no restriction in the provision on the type of customers, whether they were old or new. Also, while it may be that the services rendered between Southwestern and Central could have been different under the interim contract than under the existing contracts, it is understood that the services that actually were rendered were the same as would have been rendered under ISPA–305 and 306 except that Central operated and maintained the lines rather than Southwestern. Note, in connection with the question of performance, the following statement made by Central in its brief (pp. 5 and 6):

"* * * The operation of the lines now and during the fiscal year 1954 has been identical with the operation of the lines by SPA. The entire transmission system was in operation continuously. Its capacity was unchanged. The capacity in the lines in excess of Central's use was in excess of the requirements of SPA, and was at all times available to SPA.

* * * * * * *

"Under either the lease agreement or the interim agreement SPA had full right to serve any other customer of the Government. At no time did the Government ask to serve any customer without receiving full and immediate approval of Central.

* * * * * * *

"Central started commercial operation of its generating plant on November 21, 1953 (see attached letters dated December 1, 1953, and December 15, 1953), at which time Central proposed to operate the plant at its full capacity of 15,000 kilowatts. SPA concurred in this method of operation and continually insisted that Central operate its powerplant at capacity. (See attached letters dated January 20 and April 20, 1954.) At all times the powerplant was operated at its maximum capacity with the full knowledge of and at the request of SPA. This

was the maximum performance that could have been had either by Central or SPA.

* * * * * * *

"* * * When SPA ceased to operate the lines Central, of necessity, had to take over in order to assure continuity of service to Central's consumers and also to the consumers of SPA. The plant was operated to capacity. Neither SPA nor Central nor a combination of both could do no more. * * *"

In any event, when our holding that the funds in question are available to implement the existing contracts (ISPA–305 and 306) is considered, together with the provisions of article VI (b) of contract ISPA–305, as amended, it appears that Central is entitled to be paid to the extent that the amounts appropriated permit under the provisions of the said contract. The article provides, in pertinent part, that if the Government defaults for any reason other than failure of the Congress to appropriate necessary funds, and such default continues for 30 days or more after notice in writing shall have been given the Government, the cooperative may take possession of such facilities and operate and maintain them as long as the default continues. It further provides, in case of default by the Government for a reason other than lack of appropriations, that—

"* * * *the Government shall be liable to the Cooperative for, and Cooperative shall be entitled to receive from Government, the additional operation and maintenance expenses incurred by Cooperative by reason thereof in addition to the rental payments provided in Article V hereof.* Government shall have the right at any time during the term of this agreement to correct any such default on its part, retake possession of the leased facilities, and resume the operation and maintenance thereof under the terms of this agreement. During the period of any such default on the part of Government and subject to the provisions of this agreement with respect to reservation of capacity, the Cooperative shall permit Government to serve over such transmission facilities then existing customers of Government previously served by Government over such transmission facilities, and the rental payments and additional operation and maintenance expenses shall be treated as compensation to Cooperative for the use of Cooperative's Transmission System for that purpose." [Emphasis added.]

Since the Government defaulted for a reason other than lack of appropriations and continued to use the transmission facilities, it appears that the cooperative is entitled (within the limits of the available funds) to any operation and maintenance expenses it incurred plus the rental payments provided by article V.

As to the impossibility of making an accurate accounting between the benefits received by Central under the interim agreement and the actual benefits it would have received under the original contracts, note the following savings provisions in section 17 of the interim contract:

"* * * *Provided*, That if, during the effective term of this agreement, the aforementioned agreements of January 9, 1950, as amended, become operative by reason of the decision of a court of general jurisdiction, this interim agreement shall be void ab initio, and the rights and obligations of the Government and the cooperative shall, in all respects, be construed and adjusted retroactively to July 1, 1953, to conform to and comply with the provisions of the said agreements of January 9, 1950, as amended."

It appears to have been contemplated by the parties to the interim contract that if funds were subsequently held to be available to implement the lease-purchase contracts, the amounts due from Southwestern and Central to each other were to be computed from July 1, 1953, under such existing contracts. A letter dated December 3, 1954, from Douglas G. Wright, authorized certifying officer (and Administrator), of the Southwestern Power Administration to the Acting Comptroller General, discloses that Southwestern was able to prepare a pro forma statement reflecting a tentative balance due Central from Southwestern under contracts Nos. ISPA–305 and 306. It is stated therein that "the cooperative has not submitted to this Office any statement setting forth the net amount they believe is due them. However, I believe exhibit I–2 reflects fairly the net amount the cooperative will contend for." Subsequently, by letter dated October 26, 1955, the Acting Administrator transmitted to our Claims Division the billings of the cooperative under contracts ISPA–305 and 306 for the period July 1, 1953, through June 30, 1954, with the advice that such statements should be taken into account in settling the claims and counterclaims between Central and Southwestern. No question was raised therein as to the correctness of Central's billings or an inability to compute amounts due and payable under contracts ISPA–305 and 306, if fiscal year 1954 funds were held available to implement such contracts. Letter of June 13, 1956, last paragraph, from the Administrator, Southwestern

Power Administration, to our Claims Division, discloses that Southwestern was able to compute amounts due it from Central for fiscal year 1954 under the lease-purchase contracts, although it is stated therein "that such billings are not approved by this Office nor is their settlement recommended." The Administrator also returned Central's billings computed under the lease-purchase contracts and did not question the accuracy of such billings. From the foregoing, it appears it is possible to determine amounts due and owing between Central and Southwestern for fiscal year 1954 under contracts ISPA–305 and 306.

Concerning the statement in the letter of June 13, 1956, from Southwestern to our Claims Division, that the statement in letter dated April 25, 1956, from our Claims Division to Southwestern, to the effect that amounts due and owing between Central and Southwestern may be paid in accordance with the terms of contracts ISPA–305 and 306, cannot be reconciled with previous decisions (35 Comp. Gen. 156 and B–125127, Feb. 14, 1956) of the Comptroller General bearing on the same question, it is pointed out that it was not necessary to pass on the question of the availability of funds to implement the lease-purchase contracts in fiscal year 1954 in such decisions.

As to the contention in your Department's brief that the proposed amendments to the original contracts will give the cooperatives economic benefits and advantages equal to or greater than those granted the cooperatives under the original contracts, we should like to point out three things: (1) The original contracts call for monthly payments; (2) the proposed amendments are not retroactive; and (3) payments in future fiscal years under either the original contracts or the proposed amendments thereto are conditioned upon appropriations being made by the Congress.

The failure of Southwestern to implement during the fiscal year 1954 the original contracts with the cooperatives appears to have been due to its erroneous belief that no part of the appropriation for that year was available therefor. But for such erroneous conclusion, the appropriation of $1,200,000 less amounts necessary for other objects would have been used for such purpose. It thus would appear equitable and proper to now use the remaining amount in that fund, not otherwise obligated, to satisfy the amounts due the cooperatives under the contracts. This would in effect implement them to the extent of the appropriation made available therefor.

Inasmuch as Southwestern was able to compute the amount due it from Central for fiscal year 1954, under contracts ISPA–305 and 306, and since it does not contend that Central's billings are erroneous or incorrect as computed under such contracts, it appears that consideration should be given to settlement of Central's claim on the basis of these billings unless there are specific mistakes in the billings.

As to Western Farmers Electric Power Cooperative and Northwest Electric Power Cooperative, their claims as indicated above were forwarded here by Southwestern for information only and not for direct settlement by us as was Central's claim. However, your Department's brief refers to the claims of the latter two cooperatives and it is stated therein that similar conditions existed as to these two cooperatives. Assuming that the lease-purchase contracts with these two cooperatives contained the same provisions in general, as those in ISPA–305 and 306, it would appear that these cooperatives would be entitled to payment on the same grounds as Central. While some of their facilities were not accepted or approved by the Government, as provided in the contracts, neither were such facilities rejected. The Government was at fault here since apparently it refused to inspect the facilities or perform other acts required by or provided for in the contracts in the mistaken belief that funds were not available to implement such contracts. Moreover, since the contracts were reactivated in fiscal year 1956, it is assumed that the facilities that were completed in 1954 have now been approved and accepted by the Government. Thus, it appears that these two cooperatives are entitled to payment on the same basis as Central.

Under the contracts, the cooperatives are to be paid monthly on the basis of estimated billings with an adjustment at the end of the fiscal year so as to place the parties on an actual-cost basis. Since there is not a sufficient amount available in the continuing fund for the fiscal year 1954, to pay the full amount of the claims, it would appear payment thereof should be made on the same basis as though funds had been considered available to implement the lease-purchase contracts during fiscal year 1954. In other words, under the contract provisions

each cooperative would have billed Southwestern monthly and would have been paid monthly until the appropriated amount not necessary for other objects was exhausted. Therefore, in determining the amounts due the claimants, it would appear the same procedure should be followed that is to say, the claims would be for settlement on the basis of the amounts that would have accrued to the claimants monthly under the contracts to the extent of available funds. In any month where there are not sufficient funds available to pay full amounts due, the claimants will be paid on a pro rata basis. Therefore, it is requested that you furnish us monthly billings showing amounts due Southwestern from each of the cooperatives involved for the period July 1, 1953, to June 30, 1954, under the lease-purchase contracts and monthly billings of amounts due the cooperatives from Southwestern for the same periods under the same contracts calling toour attention any errors therein. These billings will be necessary in order to settle the claims on the basis indicated above. It will be appreciated if the amount due each involved cooperative to the extent of the funds available is computed and information furnished as to any previous payments made for the involved period. Also, we would appreciate any comment you care to make as to such proposed basis of adjustment.

Sincerely yours,

JOSEPH CAMPBELL,
Comptroller General of the United States.

DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

NOVEMBER 16, 1956.

Original and enclosure sent to Southwestern Power Administration.

C. C. DAVISON, *Acting Chief Clerk.*

Mr. WRIGHT. Yes, sir. There was $1,200,000 appropriated by the Congress during the year in question for the purpose of interim contracts and carrying out the things until permanent arrangements could be worked out. It was initially held that this money was not available to make payments subject to the lease contracts that were placed in abeyance at that time. The new Comptroller General decision holds that that appropriation, the total amount of it, $1,200,000 is available to defray proper charges against the leased contracts although they were in abeyance at the time. There was expended for the interim contracts that were in effect about $230,000 on the interim contracts with the G. & T. and for power purchases. That leaves about $970,000 available for the payment of whatever of the claims submitted prior to or subsequent to these lease agreements, that the Comptroller General's Office finds are proper. He has asked our Administration, and we have prepared and submitted to him the estimates of claims and the claims submitted by the cooperatives which they feel were proper charges pursuant to that, and involved in this were three units; namely, Central, Northwest, and Farmers Western Cooperatives.

The claims of the other two units involved, both Sho-Me and KAMO, indicate that they have no desire to submit such claims. They have written us formally to that effect. The three claims in question——

Mr. CANNON. Will you insert that in the record at this point?

Mr. WRIGHT. Yes; we will be glad to, the letters from both Sho-Me and KAMO.

(The matter referred to follows:)

SHO-ME POWER CORP.,
Marshfield, Mo., March 4, 1957.

Mr. DOUGLAS G. WRIGHT,
Administrator, Southwestern Power Administration,
Tulsa, Okla.

DEAR MR. WRIGHT: We refer to your letter of February 18, 1957, signed by Mr. James V. Alfriend regarding an opinion of the Comptroller General.

Enclosed is a copy of an opinion by our attorney on this matter.

After due consideration by our board of directors on February 28, 1957, we believe the Sho-Me Power Corp. has no claim against the Government as a result of the Comptroller General's opinion.

Very truly yours,

C. E. BOULSON,
General Manager.

KAMO ELECTRIC COOPERATIVE, INC.,
Vinita, Okla., March 25, 1957.

Mr. DOUGLAS G. WRIGHT,
Administrator, Southwestern Power Administration,
Tulsa, Okla.

DEAR. MR. WRIGHT: We have your letter of February 18, 1957, transmitting a copy of the Comptroller General's opinion of November 8, 1956 (B–122254).

Please accept our thanks for your kindness in advising us of this opinion. We have read it with interest and have carefully considered its possible hearing upon KAMO. After such consideration, however, we have concluded that KAMO does not wish to submit data for inclusion in the billing statements now being prepared for submission to the Comptroller General.

Very truly yours,

REX E. DEWEY, *General Manager.*

SPA STATEMENT OF CLAIMS

Mr. WRIGHT. The other three claims in total exceed the funds available, and the certifying officers of Southwestern Power and the Department—at least of Southwestern Power—have transmitted this matter to the Comptroller General's Office for final settlement and he has accepted jurisdiction, which means that his Office will make the payments when they have determined what amount of these claims should be paid.

Mr. CANNON. In this connection, would you also submit your representations to the Comptroller General?

Mr. WRIGHT. We will be very happy to do so, sir.

(The matter referred to follows:)

DEPARTMENT OF THE INTERIOR,
SOUTHWESTERN POWER ADMINISTRATION,
Tulsa 1, Okla., May 14, 1957.

Hon. CLARENCE CANNON,
Chairman, Subcommittee on Public Works Appropriations,
House of Representatives, Washington 25, D. C.

DEAR MR. CANNON: During the recent hearings of this Administration before your subcommittee on the public works appropriations for fiscal year 1958, information was requested as to the estimated gross amounts due certain generation and transmission cooperatives for the fiscal year 1954.

Based upon the assumption that various provisions of certain contractual arrangements could conceivably have been in effect at various periods during the fiscal year 1954, the following estimated gross amounts are considered by the Administration as due the three cooperatives who have submitted claims:

Central Electric Power Cooperative, Inc	$960, 770. 21
N. W. Electric Power Cooperative, Inc	272, 709. 05
Western Farmers Electric Power Cooperative	533, 100. 24
Total	1, 766, 579. 50

The Comptroller General will make the final settlement of the claims, at which time the exact amount due the cooperatives will be finally determined.

Sincerely yours,

DOUGLAS G. WRIGHT, *Administrator.*

Mr. CANNON. You feel, then, that this amount provided here in the estimate of $5 million would completely cover the amount due, by the Government, to generation and transmission?

Mr. WRIGHT. Yes, sir. For the year we are asking this money for, this is not to cover those claims, Mr. Chairman, but the claims are limited to the $1,200,000 appropriation made several years ago. This $5 million requested this year is solely for the purpose of the expenses and charges between the groups during the fiscal year for which their budget is submitted.

Mr. CANNON. 1958?

Mr. WRIGHT. Yes, sir; that has nothing to do with prior claims. You will notice that last year you gave us $6,400,000. We expect to spend of that, $5,200,000, and that is because we were able to get in force and effect agreements offsetting accounts between the Government and the cooperatives somewhat quicker than we hoped to be able to do.

Mr. CANNON. The Comptroller General concedes the justice and legality of these claims?

Mr. WRIGHT. I understand that he does. My comptroller tells me, Mr. Chairman, that this information I said had been transmitted to the Comptroller General is in the process of transmission and we will send you copies just as soon as it has been done.

CENTRAL ELECTRIC POWER CO-OP STATEMENT OF CLAIMS

Mr. CANNON. As I understand it, then, the continuing fund authorization of 1954 was not adequate to cover the full amount of generating and transmitting co-ops?

Mr. WRIGHT. That is correct.

Mr. CANNON. We shall insert in the record at this point the letter from the Central Electric Power Cooperative, which shows the $1,200,000 authorized in the continuing fund for 1954. However, the total amount needed to settle accounts this year was $1,818,402.08.

You said that this figure has been agreed upon by the Southwestern Power Administration?

(The matter referred to follows:)

CENTRAL ELECTRIC POWER COOPERATIVE,
Jefferson City, Mo., April 24, 1957.

Subject: SPA contracts.
Hon. CLARENCE CANNON,
House Office Building,
Washington, D. C.

DEAR MR. CANNON: Last week we obtained the figures from the Southwestern Power Administration on the final settlement of the accounts between the generation and transmission cooperatives and SPA for fiscal year 1954.

The total amount of authorization needed by SPA for the continuing fund is as follows:

Central Electric Power Cooperative	$960, 770. 21
NW. Electric Power Cooperative	324, 531. 63
Western Farmers Electric Cooperative	533, 100. 24
Total	1, 818, 402. 08

Unobligated funds available to cover the above amount are as follows:

1954 continuing fund authorization		$1, 200, 000. 00
Expended for wheeling charges to:		
M. & A. Power Cooperative	$20, 401. 19	
Oklahoma utility companies	90, 526. 01	
		110, 927. 20
Balance available for above G. & T.'s		1, 089, 072. 80

From the above figures the actual shortage in the continuing fund authorization for fiscal 1954 is:

Fund required	$1, 818, 402. 08
Fund available	1, 089, 072. 80
Total deficiency	729, 329. 28

In order to make up this deficiency, we suggest that SPA be authorized to use any unobligated balance remaining in the continuing fund authorization for fiscal 1956.

The auditors at SPA tell us that there is approximately $745,000 left as unobligated funds in the 1956 continuing fund authorization that could very easily be used to cover the 1954 deficiency of $729,329.28.

This would not require the authorization of any new funds but may require authorization to use a carryover balance to handle regular contract obligations.

The figures given above will be sent to the General Accounting Office in the near future for complete settlement of the 1954 operations.

I expect to be in Washington during the week of May 6 and will see Mr. Culp on the details of this matter.

I certainly think you took the proper stand on the post office situation.

Very truly yours,

TRUMAN GREEN, *Manager.*

Mr. WRIGHT. This figure is being audited by Southwestern and will be sent to the Comptroller General. I am not sure we have agreed to that exact figure.

Mr. CANNON. I note in your letter to me that Central Electric Power Cooperative says the figures obtained from the Southwestern Power Administration on the final settlement of the accounts between the generation and transmission cooperatives and SPA for fiscal year 1954 indicate that they will require $1,818,402.08?

Mr. WRIGHT. I believe that would be in addition to the $1,200,000. If you paid all the claims the co-ops have submitted, that is. While I am not sure, I can check that figure to see if it is correct.

Mr. CANNON. That is the final settlement on the 1954 accounts?

Mr. WRIGHT. That is correct.

UNUSED CONTINUING FUND BALANCES

Mr. CANNON. Is the unused balance in the 1954 contingency fund authorization available for these settlement purposes, without additional language in the appropriations bill?

Mr. WRIGHT. I understand it is; yes, sir.

Undoubtedly the $1,200,000 or the $970,000 left from it, is not enough to pay all of the claims that the G. and T.'s have submitted. Additional appropriations would have to be submitted for that purpose.

Mr. CANNON. Would the sum of $729,329.28 as shown in Central's letter here be settlement in full?

Mr. WRIGHT. I would have to check that, Mr. Chairman.

Mr. CANNON. Will you do that?

Mr. WRIGHT. Yes, sir.

Mr. CANNON. But you do agree that the figure of $745,000 in Central's letter is the amount which remains unobligated in 1956 continuing fund authorization?

Mr. WRIGHT. As far as I know, it is; yes.

Mr. CANNON. Then the committee, with the information before us, could, with proper language or by increasing the 1958 continuing fund authorization, provide for the full settlement due the G. and T. co-ops, without actually authorizing the expenditure of any more funds than have already been authorized in the past.

Mr. WRIGHT. We have an excess this year of $1,200,000. I do not believe you could do it without authorizing use of these excess funds.

Mr. CANNON. We have authorized this and we just make it available again, as I understand it, in 1958?

Mr. WRIGHT. That would make $1,200,000 more available. That plus the $970,000 would be about $1,990,000.

Mr. CANNON. That is about right, I guess.

In view of the Comptroller General's decision, would it not have been the fair thing for the Department to have submitted to the Budget Bureau and to the Congress, a budget amendment to accomplish this settlement? Why has not the Department done that up until this time?

Mr. WRIGHT. I have no idea. I personally have not recommended that the Department do it. It never occurred to me, Mr. Chairman, that efforts should be made to include that in the budget.

Mr. CANNON. It seems to me the Department should have apprised the committee and submitted a supplementary budget.

Mr. WRIGHT. It might be. It might have to be a supplemental budget. I would also like to point out that this budget started actually before the Comptroller General's decision was made. We had undoubtedly had hearings before the Budget Bureau before that decision came out. What the policy of the Department would be with respect to submitting a supplemental budget, I have no idea.

RATES TO G. AND T. CO-OPS

Mr. EVINS. Mr. Chairman, I would like to ask 1 or 2 questions of Mr. Wright. I am sorry that I did not get to hear your testimony this morning but I am sure that the chairman did cover the ground

thoroughly and adequately. However, I would like to inquire, for my own information, if last year there were not 4 co-op's in the State of Missouri, 3 of which had uniform rates and one of which had a higher rate. An effort was being made in the Department, or some source, to raise the rates of the 3 co-op's to the other 1.

Could you tell the committee what has been the development in that area?

Mr. WRIGHT. Yes, sir; actually one of the co-op's had a higher rate because we had not leased his 69 kilovolt system. We have worked out with that cooperative, that 1 cooperative, a transmission charge for the utilization of those facilities which have placed them on the same basis as the other 3, at a lower rate level.

Mr. EVINS. I think you are to be commended for your action in this regard. That is the action I thought should have been taken rather than raise the rates of the 3 to the other 1; the 1 lowered to the other 3.

Mr. WRIGHT. Yes, sir.

Mr. EVINS. That has been accomplished?

Mr. WRIGHT. Yes, sir.

Mr. EVINS. That is all.

LANGUAGE CHANGE

Mr. CANNON. We will insert in the record at this point an explanation of the language changes proposed by Southwestern Power Administration.

(The matters referred to follow:)

CONSTRUCTION

1. The proposed language will provide for (*a*) construction of customers' connections, and transmission facilities to interconnect Table Rock Dam with existing transmission facilities at Springfield, Mo.; (*b*) acquisition of equipment for delivery of power in emergencies, or pending installation of permanent facilities; and (*c*) acquisition of general plant and equipment.

OPERATION AND MAINTENANCE

1. Authorization for the purchase of not to exceed four passenger motor vehicles for replacement only.

The vehicles for which the Southwestern Power Administration is requesting authority to replace all will have traveled in excess of 60,000 miles and will meet the mileage replacement criteria.

The Southwestern Power Administration operates a fleet of 19 passenger motor vehicles which are used for the following purposes:

(*a*) Power marketing personnel for use throughout the area in connection with rates and customer service.

(*b*) Engineers and operating crews in connection with the operation and maintenance of the system.

(*c*) Administrative personnel for transportation in connection with property audits and meetings concerning fiscal and personnel.

Motor vehicles to be purchased:	
Number	4
Gross cost	$5,850
Old vehicles to be exchanged:	
Number	4
Allowance	1,200
Net cost	$4,650
Old vehicles still to be used	15

Mr. CANNON. Thank you, Mr. Wright.

I might say that our relations with you have always been pleasant, and we appreciate the way in which you have cooperated with this committee.

Mr. WRIGHT. Thank you, Mr. Chairman, and I would like to say that I appreciate your forbearance of the "farmer boy" way I present this sometimes.

Mr. CANNON. It is a very effective way.

Mr. WRIGHT. Thank you, Mr. Chairman.

SOUTHEASTERN POWER ADMINISTRATION

MONDAY, MAY 6, 1957.

WITNESSES

CHARLES W. LEAVY, ADMINISTRATOR

THOMAS H. WIGGLESWORTH, CHIEF, DIVISION OF POWER OPERATIONS

OPERATION AND MAINTENANCE

Program and financing

	1956 actual	1957 estimate	1958 estimate
Program by activities:			
1. System operation and maintenance	$52,511	$75,000	$79,000
2. Purchase of energy and wheeling charges	1,078,383	1,634,000	1,681,000
3. Power contracts and rates	82,520	89,500	94,500
4. General administration	69,056	79,500	84,500
Total obligations	1,282,470	1,878,000	1,939,000
Financing: Unobligated balance no longer available	112,530		
Appropriation	1,395,000	1,878,000	1,939,000

Obligations by objects

		1956 actual	1957 estimate	1958 estimate
	Total number of permanent positions	39	39	39
	Average number of all employees	32	38	38
	Number of employees at end of year	34	39	39
	Average salaries and grades:			
	General schedule grades:			
	Average salary	$5,662	$5,620	$5,780
	Average grade	GS–7.7	GS–7.5	GS–7.8
	Ungraded positions: Average salary	$2,954	$2,954	$2,954
01	Personal services:			
	Permanent positions	$177,717	$207,642	$213,000
	Positions other than permanent	57	4,358	
	Regular pay above 52-week base	694		1,000
	Total personal services	178,468	212,000	214,000
02	Travel	7,051	11,000	9,500
03	Transportation of things	229		
04	Communication services	4,961	6,000	6,000
05	Rents and utility services	21	1,000	
06	Printing and reproduction	572		
07	Other contractual services	1,080,521	1,641,000	1,684,000
08	Supplies and materials	2,721	4,000	4,500
09	Equipment	7,492	3,000	8,000
11	Grants, subsidies, and contributions: Contribution to retirement fund			13,000
15	Taxes and assessments	434		
	Total obligations	1,282,470	1,878,000	1,939,000

Budget authorizations, expenditures and balances

	1956 actual	1957 estimate	1958 estimate
BUDGET AUTHORIZATIONS AVAILABLE			
Appropriation	$1,395,000	$1,878,000	$1,939,000
Obligated balance brought forward	80,894	134,175	160,000
Total budget authorizations available	1,475,894	2,012,175	2,099,000
EXPENDITURES AND BALANCES			
Expenditures—			
Out of current authorizations	1,148,365	1,718,000	1,770,000
Out of prior authorizations	79,485	134,175	160,000
Total expenditures	1,227,850	1,852,175	1,930,000
Balance no longer available:			
Unobligated (expiring for obligation)	112,530		
Other	1,339		
Obligated balance carried forward	134,175	160,000	169,000
Total expenditures and balances	1,475,894	2,012,175	2,099,000

Mr. CANNON. We will take up the Southeastern Power Administration.

JUSTIFICATIONS

Before we hear from Mr. Leavy, we will insert at this point in the record pages 1 through 7 and 12 of the justifications.

(The matter referred to follows:)

Operation and maintenance

Appropriation Act, 1957	$1,378,000
Supplemental Appropriation Act, 1957	500,000
Total appropriation	1,878,000
Total available, 1957	1,878,000
Increase in base due to Government's contribution to the retirement fund	14,000
Adjusted appropriation	1,892,000
Decreases	
Base, 1958	1,892,000
Increases: Purchase of energy and wheeling charges	47,000
Budget estimate, 1958	1,939,000

Analysis of adjusted appropriation—Operation and maintenance

Activity	Total available 1957 (1)	Increase in base due to Government's contribution to the retirement fund (2)	Adjusted appropriation (3)
1. System operation and maintenance	$75,000	$4,000	$79,000
2. Purchase of energy and wheeling charges	1,634,000		1,634,000
3. Power contracts and rates	89,500	5,000	94,500
4. General administration	79,500	5,000	84,500
Total	1,878,000	14,000	1,892,000

Analysis by activities

	Adjusted appropriation	Decreases	Base, 1958	Estimate, 1958	Increases	Page reference justification
1. System operation and maintenance	$79,000		$79,000	$79,000		8
2. Purchase of energy and wheeling charges	1,634,000		1,634,000	1,681,000	$47,000	10
3. Power contracts and rates	94,500		94,500	94,500		13
4. General administration	84,500		84,500	84,500		16
Total	1,892,000		1,892,000	1,939,000	47,000	

Operation and Maintenance

General Statement

Statutory authority and agency responsibilities

Section 5 of the Flood Control Act of 1944 makes the Secretary of the Interior responsible for marketing the power and energy generated at all reservoir projects under control of the Corps of Engineers, Department of the Army. In March of 1950 the Secretary established the Southeastern Power Administration to carry out this responsibility in a 10-State area consisting of West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee and Kentucky.

Broad objectives

The agency's overall, continuing objectives are defined by section 5. Under its terms the agency is required to "transmit and dispose" of power and energy "in such manner as to encourage the most widespread use thereof at the lowest possible rates to consumers consistent with sound business principles." It provides for the agency's rate schedules "to become effective upon confirmation and approval by the Federal Power Commission" and further provides that "rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of the project) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment allocated to power over a reasonable period of years." It requires the agency to give "preference in the sale of such power and energy" to public bodies and cooperatives. Accordingly, the agency's budget year objectives may be defined in broad terms to consist of those accomplishments appropriate to the circumstances of the budget year that carry out the provisions of section 5.

December 1956 status of generating capacity and marketing arrangements

	Kilowatts operating at December of current year	Kilowatts under construction for operation in—					Total
		Current year	Budget year	Fiscal year 1959	Fiscal year 1962	Fiscal year 1963	
1. Wolf Creek	270,000						270,000
2. Center Hill	135,000						135,000
3. Dale Hollow	54,600						54,600
4. Allatoona	74,000						74,000
5. Philpott	14,000						14,000
6. John H. Kerr	204,000						204,000
7. Clark Hill	280,000						280,000
8. Jim Woodruff		30,000					30,000
9. Buford		46,000	40,000				86,000
10. Old Hickory		25,000	75,000				100,000
11. Cheatham			12,000	24,000			36,000
12. Fort Gaines					32,500	97,500	130,000
Total	1,031,600	101,000	127,000	24,000	32,500	97,500	1,413,600

The output of the projects is being sold under 119 long-term contracts and 3 short-term, interim agreements. The entire output of the first three projects shown on the table (Wolf Creek, Center Hill, and Dale Hollow) is being sold to the Tennessee Valley Authority under a long-term contract. The Georgia Power Co.

is purchasing the entire output of the Allatoona project under a long-term contract. The Appalachian Electric Power Co. is purchasing the output of the Philpott project under a short-term, interim agreement, and the Florida Power Corp. is purchasing the output of the Jim Woodruff project under a short-term, interim agreement. Two-thirds of the output of the John H. Kerr project is being sold under long-term contracts to the Virginia Electric & Power Co., and to 17 rural electric cooperatives of Virginia and North Carolina. The remaining one-third is being sold under long-term contracts to the Carolina Power & Light Co. and to 16 preferred agencies in North Carolina. Clark Hill project power allocated to South Carolina is being sold to the South Carolina Public Service Authority and the Greenwood County Electric Power Commission under long-term contracts and to the South Carolina Electric & Gas Co. under a short-term, "when, as, and if" contract. Clark Hill power allocated to Georgia is being sold under long-term contracts to the Georgia Power Co. and to 37 rural electric cooperatives and 42 municipalities in Georgia.

It is anticipated that during the current year or early in the budget year long-term arrangements will also be concluded for the sale of the output of the Philpott, Jim Woodruff, Buford, Cheatham, and Old Hickory projects.

Budget year objectives

The budget year objectives may be summarized as follows:

(1) Administration of over 200 long-term contracts which are expected to be in effect at the beginning of the budget year;

(2) Establishment of rates for the Fort Gaines and Hartwell projects;

(3) Maintenance of individual and consolidated repayment accounts for 11 projects involving a power investment of approximately $400 million;

(4) Determination of the technical and financial benefits available from integrated operation of the Fort Gaines and the Hartwell projects with the Clark Hill, Buford, Allatoona, and Jim Woodruff projects.

Funds required for appropriation

The agency's appropriation request consists entirely of operation and maintenance funds in the amount of $1,939,000. The funds are distributed among four activities, namely, system operation and maintenance, power contracts and rates, general administration, and purchase of energy and wheeling charges. Purchase of energy and wheeling charges is estimated to require $1,680,000. The remaining $258,000 is required for actual operation of the agency and provides for a continuation of the agency's working force at the current year level.

Status of revenues

Last year's actual revenues and the revenues which are estimated for the current year and the budget year are as follows:

Projects	Fiscal year 1956 (actual)	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated)
Wolf Creek	$5,070,000.00	$3,950,000.00	$3,960,000
Center Hill			
Dale Hollow			
Old Hickory		69,600.00	1,044,000
Cheatham			69,000
Allatoona	847,214.50	979,181.00	1,048,000
Buford		138,600.00	1,524,600
Jim Woodruff		391,000.00	1,378,800
Clark Hill	1,868,930.02	3,906,795.23	4,388,200
Philpott	205,860.30	131,095.65	217,100
John H. Kerr	3,452,553.51	4,242,855.67	4,542,500
Total	11,444,558.33	13,809,127.55	18,162,200

Estimate of Firming Energy Purchases and Wheeling Charges, John H. Kerr Project, Virginia Electric & Power Co. Contract—Fiscal Year 1958

Table I.—*Year-by-year firming and wheeling costs*

[Dollar requirements based on monthly application of contract provisions throughout 22-year period of complete water records]

Fiscal year	On-peak kilowatt-hours	On-peak dollars	Total wheeling and firming cost
1931	121,291,900	$642,847.07	$1,366,818.94
1932	86,757,500	459,814.75	1,183,786.62
1933	43,864,100	232,479.73	956,451.60
1934	88,918,700	471,269.11	1,195,240.98
1935	35,738,700	189,415.11	913,386.98
1936	40,746,600	215,956.98	939,928.85
1937	50,713,700	268,782.61	992,754.48
1938	28,304,500	150,013.85	873,985.72
1939	25,323,000	134,211.90	737,393.06
1940	55,895,400	296,245.62	1,020,217.49
1941	58,772,200	311,492.66	1,035,464.53
1942	89,191,700	472,716.01	1,196,687.88
1943	14,518,100	76,945.93	800,917.80
1944	66,372,600	351,774.78	1,075,746.65
1945	42,237,500	223,858.75	947,830.62
1946	26,648,300	141,235.99	865,207.86
1947	69,254,900	367,050.97	1,091,022.84
1948	26,268,700	139,224.11	863,195.98
1949	17,297,500	91,676.75	815,648.62
1950	24,910,300	132,024.59	855,996.46
1951	35,621,300	188,792.89	912,764.76
1952	57,265,500	303,507.15	1,027,479.02
Average	50,268,800	266,424.42	990,396.29

Table II.—*Critical year costs, monthly and cumulatively*

Month	Wheeling	Off-peak firming	On-peak firming	Month's total	Cumulative
July	$34,568.03	$34,196.58	$61,147.16	$129,911.77	$129,911.77
August	32,146.62	28,473.40	50,475.08	111,095.10	241,006.87
September	32,008.20	32,124.82	47,070.36	111,203.38	352,210.25
October	31,111.50	26,930.22	58,766.40	116,808.12	469,018.37
November	28,849.35	27,295.02	49,438.40	105,582.77	574,601.14
December	31,855.00	31,329.48	49,714.00	112,898.48	687,499.62
January	32,173.50	28,959.80	54,194.62	115,327.92	802,827.54
February	28,002.70	25,044.28	50,506.88	103,553.86	906,381.40
March	31,053.00	29,112.18	56,766.71	116,931.89	1,023,313.29
April	30,121.65	26,679.80	59,105.07	115,906.52	1,139,219.81
May	29,059.65	26,156.92	51,105.78	106,322.35	1,245,542.16
June	33,347.43	33,372.74	54,556.61	121,276.78	1,366,818.94
Total	374,296.63	349,675.24	642,847.07	1,366,818.94	1,366,818.94

NOTES

(1) The fiscal year 1958 capacity and energy requirements of the 17 Government customers served under the wheeling and firming contract with Vepco have been applied to each month of 22 fiscal years for which complete water records at the Kerr project are available to determine the actual wheeling and firming charges that would have occurred in those years if the Vepco contract had been in operation and the load forecast for fiscal year 1958 for the Government's customers actually prevailed.

(2) For all years, the wheeling charges remain constant:

Zone 1 deliveries of 136,454,300 kilowatt-hours, at $0.001	$136,454.30
Zone 2 deliveries of 135,909,900 kilowatt-hours, at $0.00175	237,842.33
Total deliveries of 272,364,200 kilowatt-hours	374,296.63

(3) For all years, the purchase of off-peak firming energy remains constant: Off-peak purchases of 92,019,800 kilowatt-hours, at $0.0038, $349,675.24.

(4) Thus, for all years, wheeling charges and off-peak purchases will amount to a constant figure of $723,971.87.

(5) The variable in the estimate is the amount required for on-peak purchases of energy. Depending on the quantity of water available in each month of each year, the on-peak purchases at $0.0053 per kilowatt-hours), and consequently the total firming and wheeling charges, vary as shown in table I opposite these notes. The average on-peak firming costs from this tabulation is on-peak purchases of 50,268,800 kilowatt-hours, at $0.0053, $266,424.42.

(6) The average cost of firming and wheeling expenses in thereby estimated to be $990,396.29.

(7) In a critical water year this would be sufficient money to pay firming and wheeling charges through February as shown in table II opposite these notes.

(8) Sources of data and assumptions used in the estimate are:

(a) Basic water data for each month of the 22 years used is from Dependable Capacity and Energy Studies, John H. Kerr Project, SEPA Division of Operations, December 1953. Dependable capacity of 179,500 kilowatts at 1,180 hours use per year based on assumptions that the project will be electrically integrated with Philpott project.

(b) Basic load data of Government customers is from individual load forecasts by months for fiscal year 1958 for 17 cooperatives served under the wheeling and firming contract.

(c) Diversity factors used: 0.969 for December; 0.966 for November and January; 0.958 for October and February; 0.948 for March and September; 0.938 for April and August; 0.930 for May and July, and 0.927 for June.

(d) Energy divided between on- and off-peak on the basis of studies of past experiences for each month of the year.

General Statement

Mr. Cannon. Do you have a prepared statement, Mr. Leavy?

Mr. Leavy. I have a statement, sir, that I would like to place in the record and then, if you wish, I can either read it or highlight it to save a little time.

Mr. Cannon. What is the preference of the committee?

We will insert the formal statement in the record at this point and then be glad to have you highlight it, as you wish.

(The matter referred to follows:)

Statement of Charles W. Leavy, Administrator, Southeastern Power Administration, Before the Public Works Subcommittee of the Committee on Appropriations, House of Representatives, 85th Congress, 1st Session

Mr. Chairman and gentlemen of the committee, you are of course already acquainted with the statutory authority for the Southeastern Power Administration and with the activities for which the agency is responsible. Before bringing you up to date on the developments which have taken place since our last appearance before you I might therefore only mention in passing that the agency was established a little less than 7 years ago by the Secretary of the Interior to carry out in a 10-State area of the Southeast the power disposal responsibilities which are given him by section 5 of the Flood Control Act of 1944, and to invite your attention to the map attached to your copies of this statement which shows the area and the hydroelectric projects with which we are concerned.

First of all, some changes will soon take place in the status of the generating capacity at the projects for which Southeastern is marketing agent. For convenience in examining the current status of capacity installations you may wish to follow the table which is the second attachment to the statement.

You will note that there are 7 projects now operating, and that capacity installations have been completed at all 7. More than 1 million kilowatts of capacity are installed.

In the budget year the complete installation at the Jim Woodruff and Buford projects will be made and the first 2 units at the Old Hickory project will be installed, so that the total of installed capacity at the end of that year will be approximately 1,200,000 kilowatts.

Thereafter, in the year following the budget year, further installations at the Old Hickory and Cheatham projects will increase the capacity total to over 1,250,000 kilowatts.

The output of the projects is being sold under 119 long-term contracts and 3 short-term, interim agreements. The entire output of the first three projects shown on the table (Wolf Creek, Center Hill and Dale Hollow) is being sold to the Tennessee Valley Authority under a long-term contract. The Georgia Power Co. is purchasing the entire output of the Allatoona project under a long-term contract. The Appalachian Electric Power Co. is purchasing the output of the Philpott project under a short-term, interim agreement and the Florida Power Corp. is purchasing the output of the Jim Woodruff project under a short-term interim agreement. Two-thirds of the output of the John H. Kerr project is being sold under long-term contracts to the Virginia Electric & Power Co. and to 17 rural electric cooperatives of Virginia and North Carolina. The remaining one-third is being sold under long-term contracts to the Carolina Power & Light Co. and to 16 preferred agencies in North Carolina. Clark Hill project power allocated to South Carolina is being sold to the South Carolina Public Service Authority and the Greenwood County Electric Power Commission under long-term contracts and to the South Carolina Electric & Gas Co. under a short-term, "when, as, and if" contract. Clark Hill power allocated to Georgia is being sold under long-term contracts to the Georgia Power Co. and to 37 rural electric cooperatives and 42 municipalities in Georgia.

The status of revenues is set forth on the table which is the third attachment to the statement. You will note that last year's actual revenues reached a total of almost $11½ million. We estimate that the total of this year's revenues will be increased to almost $14 million, and that the total revenue for the budget year will be still further increased to over $18 million.

It is anticipated that during the current year or early in the budget year long-term arrangements will also be concluded for the sale of the output of the Philpott, Jim Woodruff, Buford, Cheatham, and Old Hickory projects.

The budget-year objectives adopted in these circumstances are as follows:

First, administration of over 200 long-term contracts which are expected to be in effect at the beginning of the budget year;

Second, establishment of rates for the Fort Gaines and Hartwell projects;

Third, maintenance of individual and consolidated repayment accounts for 11 projects involving a power investment of approximately $400 million;

Fourth, determination of the technical and financial benefits available from integrated operation of the Fort Gaines and Hartwell projects with the Clark Hill, Buford, Allatoona, and Jim Woodruff projects.

An appropriation of $1,939,000, consisting entirely of operation and maintenance funds, is requested for the activities required to prosecute these objectives. The activities are "System operations and maintenance," "Purchase of energy and wheeling charges," "Power contracts and rates" and "General administration." The sum of $1,681,000, or over 85 percent of the total appropriation, is requested for purchase of energy and wheeling charges, to be devoted exclusively to the purchases of firming energy and the payment of wheeling fees which will occur during the budget year operation of the existing contracts with the Virginia Electric & Power Co., the Carolina Power & Light Co., and the Georgia Power Co. The remaining $258,000 of the appropriation request will provide for the "System operations and maintenance," "Power contracts and rates," and "General administration" activities comprising the direct operation and maintenance of the agency headquarters. Of this amount $79,000 is requested for system operations and maintenance, $94,500 for power contracts and rates, and $84,500 for general administration.

The budget year objectives represent an increase in work over the current year. No corresponding increase in personnel is contemplated by the requested funds for the direct operation and maintenance of the agency headquarters. Rather, the $258,000 requested for this purpose provides for a continuation of the agency's working force at the current year level.

Each of the activities to be conducted for attainment of the budget-year objectives consists of a set of related tasks. These are enumerated and examined at length in the bound assembly of justification detail which the committee already has. A summation and highlighting of them here may provide some further illustration of the extent of the agency's budget year work.

The "System operations and maintenance" activity is carried out to provide for investigation of the power market; determination of alternative transmission costs; scheduling and dispatch of power generation; scheduling of storage and release of

water; administration of contractual operation requirements; appraisal of proposed hydroelectric developments; and determination of methods for coordinating operation of present and proposed generating plants to obtain maximum utilization of resources. These tasks are accomplished continuously in every year. Their scope will increase in the budget year as a consequence of operational and power disposal arrangements secured in the current year.

The "Power contracts and rates" activity is conducted to prepare for, accomplish, maintain, and review the results of power-disposal arrangements. In its conduct the agency determines the production cost and selling price of the power, establishes and secures approval of rates, negotiates and administers appropriate contracts and conducts perpetual review of results. Like those of system operations and maintenance, these tasks are continuing in nature and the amount of work entailed in their accomplishment will increase in the budget year.

The "General administration" activity is conducted to provide executive management for the agency and to supply the agency with supporting administrative and fiscal services. Its principal tasks are (1) executive direction and control of the agency as a whole, (2) administration of personnel matters, (3) procurement of supplies, equipment and materials, and the conduct of office services, (4) maintenance of accounts which record and control the expenditure of appropriated funds in accordance with the terms of their appropriation, and (5) preparation of the annual budget estimates. The activity's extent from year to year, of course, results from and is proportionate to the extent of the agency's other activities.

Funds appropriated for purchase of energy and wheeling charges are used only to pay amounts charged the Government under contractual arrangements for (1) delivery of power over non-Federal systems to load centers of preferred agencies for the account of the Government, and (2) purchase by the Government of energy to firm up federally generated power to the load factor required by preferred agencies. As I mentioned earlier, the appropriation requested for the activity is required solely to meet budget year obligations under the existing contracts with the Virginia Electric & Power Co., the Carolina Power & Light Co., and the Georgia Power Co. It will accomplish service to 17 preferred agencies at approximately 80 points of wholesale delivery in the service area of the Virginia Co., to 16 preferred agencies at approximately 65 points of wholesale delivery in the service area of the Carolina Co., and to 79 preferred agencies at approximately 225 points of wholesale delivery in the service area of the Georgia Co.

Nine hundred and ninety-one thousand dollars of the funds requested for this purpose are for payment of wheeling charges and purchase of firming energy under the Virginia Co. contract. This amount is not based on critical water year conditions at the project. In computing the amount of the estimate for fiscal year 1958, a determination was made of the actual payments that would have occurred under the Virginia Co. contract had the contract been in operation and serving the estimated 1958 requirements of the 17 cooperatives during 39 years for which actual water records are available. The amount of the appropriation request is the average of these yearly determinations.

One hundred and ninety thousand dollars of the funds requested are for payment of wheeling charges under the Carolina Co. contract. This is the amount estimated to be required for this purpose during fiscal year 1958 based on average water conditions.

Five hundred thousand dollars of the funds requested are for payment of wheeling fees under the Georgia Co. contract. This is the amount estimated to be required for this purpose during fiscal year 1958 based on average water conditions.

No funds are required under the latter two contracts for the purchase of firming energy since such energy is sold by the companies directly to preferred agencies.

Status of revenues

Projects	Fiscal year 1956 (actual)	Fiscal year 1957 (estimated)	Fiscal year 1958 (estimated)
Wolf Creek	$5,070,000.00	$3,950,000.00	$3,950,000
Center Hill			
Dale Hollow			
Old Hickory		69,600.00	1,044,000
Cheatham			69,000
Allatoona	847,214.50	979,181.00	1,048,000
Buford		138,600.00	1,524,600
Jim Woodruff		391,000.00	1,378,800
Clark Hill	1,868,930.02	3,906,795.23	4,388,200
Philpott	205,860.30	131,095.65	217,100
John H. Kerr	3,452,553.52	4,242,855.67	4,542,500
Total	11,444,558.33	13,809,127.55	18,162,200

Current year status of generating capacity

	Kilowatts operating at December of current year	Kilowatts under construction for operation in—					Total
		Current year	Budget year	Fiscal year 1959	Fiscal year 1962	Fiscal year 1963	
Wolf Creek	270,000						270,000
Center Hill	135,000						135,000
Dale Hollow	54,600						54,600
Allatoona	74,000						74,000
Philpott	14,000						14,000
John H. Kerr	204,000						204,000
Clark Hill	280,000						280,000
Jim Woodruff		30,000					30,000
Buford		46,000	40,000				86,000
Old Hickory		25,000	75,000				100,000
Cheatham			12,000	24,000			36,000
Fort Gaines					32,500	97,500	130,000
Total	1,031,600	101,000	127,000	24,000	32,500	97,500	1,413,600

Mr. LEAVY. I might mention, before I start, that, in the portions of the statement that I read, there are some minor changes in the statement as compared to the way it was originally submitted to your committee. The changes in the statement result from changes in the status of projects that have occurred in the last few months.

Mr. CANNON. That will be found on what pages?

Mr. LEAVY. It will be found on pages 1 and 2 and, if you wish, I will indicate others as I go along.

Mr. CANNON. If you will.

Mr. LEAVY. Mr. Chairman and gentlemen of the committee, you are, of course, already acquainted with the statutory authority for the Southeastern Power Administration and with the activities for which the agency is responsible. Before bringing you up to date on the developments which have taken place since our last appearance before you, I might invite your attention to the map attached to

your copies of the statement, which shows the area and the hydroelectric projects with which we are concerned. Some changes will soon take place in the status of the generating capacity of certain units.

Mr. CANNON. I observe some deviation from the statement before us.

GENERATING CAPACITY

Mr. LEAVY. That is correct. For convenience, in examining the current status of capacity of installations, you may wish to follow the table which is the second attachment to the statement.

There are 9 projects now operating, and the statement refers to 7. However, since the time the statement was prepared, Old Hickory and Jim Woodruff projects have commenced operations.

There are now 9 projects in operation, and capacity installations have been completed at 8 of these 9 projects. More than 1 million kilowatts of capacity are installed. In the budget year, the complete installation at the Buford project will be made. The statement indicates that the Jim Woodruff installation will be completed in the budget year. It is, in fact, completed now.

In the budget year, the complete installation at Buford project will be made, and the last 3 units at the Old Hickory project will be installed, so that the total of installed capacity at the end of that year will be approximately 1,225,000 kilowatts.

Mr. CANNON. 1,225,000 kilowatts as compared to what?

Mr. LEAVY. 1,225,000?

Mr. CANNON. As compared with the statement you make here of 1,250,000 kilowatts. Where have you lost that 25,000?

Mr. LEAVY. I think I am in the first paragraph only, Mr. Chairman.

Mr. CANNON. On page 2?

Mr. LEAVY. On page 2, the fourth line, 1,200,000. That should be 1,225,000.

Thereafter, in the year following the budget year, further installations at the Old Hickory and Cheatham projects will increase the capacity total to over 1,250,000 kilowatts.

Mr. CANNON. You are still reporting 25,000 kilowatts more on the Jim Woodruff and the Buford projects than you have given us in your original statement?

Mr. LEAVY. There is a little more capacity at the Old Hickory project that will be installed in the budget year, more than the statement indicated.

CONTRACTS

The output of the projects is being sold under 119 long-term contracts and 4 short-term, interim agreements. The statement refers to 3 short-term agreements; there has since been 1 additional agreement added. The entire output of the first three projects shown on the table (Wolf Creek, Center Hill, and Dale Hollow) is being sold to the Tennessee Valley Authority under a long-term contract.

With respect to the additional short-term agreement, the output of the first unit at the Old Hickory project is being sold to TVA under a short-term interim agreement. That additional short-term agreement has come into being since the statement was originally prepared.

The Georgia Power Co. is purchasing the entire output of the Altoona project under a long-term contract. The Appalachian Electric Power Co. is purchasing the output of the Philpott project under a short-term, interim agreement, and the Florida Power Corp. is purchasing the output of the Jim Woodruff project under a short-term interim agreement.

Mr. CANNON. You do not have any standardization as to term? I see you have 1 long-term contract and you have 2 short-term contracts. What occasions the difference there?

Mr. LEAVY. The short-term contracts with which we are concerned here primarily are the one for the Philpott project, the one for the Old Hickory project and the one for the Jim Woodruff project. The Old Hickory short-term interim agreement has been entered into simply to take care of the few months it will take to enter into a long-term contract with TVA which will cover the Old Hickory and Cheatham projects. We are substantially in agreement with TVA on that, but we have not completed details of the long-term contract. The interim agreement is simply to cover the short period pending execution of the long-term contract with TVA. At the Jim Woodruff project we are presently negotiating with the Florida Power Corp. for a wheeling agreement under which we will be able to sell the output of the project to preferred agencies in that company's service area. However, pending completion of this agreement we are selling the output of the company under an interim agreement. At the Philpott project—it is the same situation—we are selling the output to the Appalachian Power Co. pending consummation of some long-term arrangements for sale of power from the project. The situation there has been somewhat complicated by the fact that the preferred agencies in the immediate area of the project have not indicated an interest in purchasing the power and we are, therefore, looking to the possibilities of selling that power to other preferred agencies.

We expect that that arrangement should be negotiated and consummated in the reasonably near future. All of the short-term, interim agreements, are truly that. They are simply to take care of the sale of power, pending the completion of negotiations which are now underway for long-term agreements.

Two-thirds of the output of the John H. Kerr project is being sold under long-term contracts to the Virginia Electric & Power Co. and to 17 rural electric cooperatives of Virginia and North Carolina. The remaining one-third is being sold under long-term contracts to the Carolina Power & Light Co. and to 16 preferred agencies in North Carolina.

Clark Hill project power allocated to South Carolina is being sold to the South Carolina Public Service Authority and the Greenwood County Electric Power Commission under long-term contracts and to the South Carolina Electric & Gas Co. under a short-term "when, as, and if" contract. Clark Hill power allocated to Georgia is being sold under long-term contracts to the Georgia Power Co. and to 37 rural electric cooperatives and 42 municipalities in Georgia.

REVENUES

The status of revenues is set forth on the table which is the third attachment to the statement. You will note that last year's actual

revenues reached a total of almost $11½ million. We estimate that the total of this year's revenues will be increased to almost $14 million and that the total revenue for the budget year will be still further increased to over $18 million.

Mr. CANNON. Excuse me right there. That is a very satisfying development, you are increasing the revenues. By increasing the revenues, it means that you are increasing the profits, I take it?

Mr. LEAVY. We are increasing our ability to repay the projects; yes, sir.

Mr. CANNON. You are achieving your goal every year in repayment?

Mr. LEAVY. That is correct, sir. I would like to say that the totals which I have given you here are still correct. Our latest estimates of revenues for this fiscal year changes the distribution of revenues somewhat among the projects. If you wish, I will prepare and place in the record a breakdown by projects and bring this attachment up to date.

Mr. CANNON. We would like to have that.

(The matter referred to follows:)

Status of revenues

Projects	Fiscal year 1956, actual	Fiscal year 1957, estimated	Fiscal year 1958, estimated
Wolf Creek	$5,070,000.00	$5,070,000.00	$3,950,000
Center Hill			
Dale Hollow			
Old Hickory		84,600.00	1,044,000
Cheatham			69,000
Allatoona	847,214.50	916,378.50	1,048,000
Buford			1,524,600
Jim Woodruff		270,376.25	1,378,800
Clark Hill	1,868,930.02	3,163,811.63	4,388,200
Philpott	205,860.30	108,241.50	217,100
John H. Kerr	3,452,553.51	4,050,695.65	4,542,500
Total	11,444,558.33	13,664,103.53	18,162,200

TRANSMISSION LINES

Mr. CANNON. A year or 2 ago you submitted an estimate, or an estimate was submitted to us, for transmission lines connecting this dam with its distribution system. Has that transmission line been constructed?

Mr. LEAVY. Which line are you referring to?

Mr. CANNON. The transmission line making the output of this dam available to a wider field of distribution, a larger number of customers. Off the record.

(Discussion off the record.)

Mr. CANNON. On the record.

Mr. LEAVY. Southeastern does not now own or operate any transmission facilities. All transmission is done by wheeling agreements.

JOHN H. KERR DAM

Mr. CANNON. Under the present arrangement, does the John H. Kerr Dam have ample outlet for its product?

Mr. LEAVY. Yes, sir; it does. We are serving all of the preferred agencies that wish to receive power from the project within 150 miles of the project, both in Virginia and North Carolina.

Mr. CANNON. While we are on this subject, John H. Kerr Dam included heavy estimates for flood control. Would you say the project had been successful in that respect?

Mr. LEAVY. I am sure that they have been successful. I am not too certain as to whether we have had any major floods since they have been in operation.

I would like Mr. Wigglesworth to answer that, if you please.

Mr. WIGGLESWORTH. There has not been a major flood at the project, but there have been a number of smaller floods in which the flows downstream from the dam have been reduced and resulted, you might say, in at least less inconvenience than would have been the case if the project had not been there.

Mr. CANNON. As far as you are able to judge, then, up to this time, the dam has been a success in this respect?

Mr. WIGGLESWORTH. Yes; completely.

Mr. CANNON. You may continue.

Mr. LEAVY. It is anticipated that during the current year or early in the budget year, long-term arrangements will also be concluded for the sale of the output of the Philpott, Jim Woodruff, Buford, Cheatham, and Old Hickory projects.

OBJECTIVES IN 1958

The budget-year objectives adopted in these circumstances are as follows:

First, administration of over 200 long-term contracts which are expected to be in effect at the beginning of the budget year.

Second, establishment of rates for the Fort Gaines and Hartwell projects.

Third, maintenance of individual and consolidated repayment accounts for 11 projects involving a power investment of approximately $400 million.

Fourth, determination of the technical and financial benefits available from integrated operation of the Fort Gaines and Hartwell projects with the Clark Hill, Buford, Allatoona, and Jim Woodruff projects.

An appropriation of $1,939,000, consisting entirely of operation and maintenance funds, is requested for the activities required to prosecute these objectives. The activities are system operations and maintenance, purchase of energy and wheeling charges, power contracts and rates, and general administration. The sum of $1,681,000, or over 85 percent of the total appropriation, is requested for purchase of energy and wheeling charges, to be devoted exclusively to the purchase of firming energy and the payment of wheeling fees which will occur during the budget year operation of the existing contracts with the Virginia Electric & Power Co., the Carolina Power & Light Co., and the Georgia Power Co. The remaining $258,000 of the appropriation request will provide for the system operations and maintenance, power contracts and rates, and general administration activities comprising the direct operation and maintenance of the

agency headquarters. Of this amount, $79,000 is requested for system operations and maintenance, $94,500 for power contracts and rates, and $84,500 for general administration.

The budget-year objectives represent an increase in work over the current year. No corresponding increase in personnel is contemplated by the requested funds for the direct operation and maintenance of the agency headquarters. Rather, the $258,000 requested for this purpose provides for a continuation of the agency's working force at the current year level.

PURCHASE OF ENERGY AND WHEELING CHARGES

If I may then skip over to the first paragraph at the beginning of page 6:

Funds appropriated for purchase of energy and wheeling charges are used only to pay amounts charged the Government under contractual arrangements for (1) delivery of power over non-Federal systems to load centers of preferred agencies for the account of the Government and (2) purchase by the Government of energy to firm up federally generated power to the load factor required by preferred agencies. As I mentioned earlier, the appropriation requested for the activity is required solely to meet budget year obligations under the existing contracts with the Virginia Electric & Power Co., the Carolina Power & Light Co. and the Georgia Power Co. It will accomplish service to 17 preferred agencies at approximately 80 points of wholesale delivery in the service area of the Virginia company, to 16 preferred agencies at approximately 65 points of wholesale delivery in the service area of the Carolina company, and to 79 preferred agencies at approximately 225 points of wholesale delivery in the service area of the Georgia company.

In lieu of the last page I want to just say that the amounts requested for this purpose are based entirely on the estimated requirements under average conditions rather than the requirements which will occur under adverse water conditions.

That is all that I have in the nature of a highlight of our request, Mr. Chairman.

Mr. CANNON. You will insert in the record the tables that you have given us here?

Mr. LEAVY. Yes, sir; and I will insert the corrected revenue estimate also.

Mr. CANNON. In that way your system will be brought down to date as of today?

Mr. LEAVY. Yes, sir.

Mr. CANNON. The only change of any consequence in your justifications seems to be an increase of $47,000 in the item for purchase of energy and wheeling charges.

Why is that necessary, Mr. Leavy?

Mr. LEAVY. That comes about under the Virginia Electric & Power contract.

Mr. CANNON. That is a long-term contract?

Mr. LEAVY. That is a long-term contract; yes, sir. Initially, some of the cooperatives were not taking the entire amount for which they had contracted, and each year there has been a slight increase in the amount of power taken by the cooperatives. In addition, there have

been some slight increases in the load factor of those customers, and those two things have required the purchase of some additional firming energy and wheeling of some additional energy.

That increase is attributable to that situation in Virginia.

PHILPOTT DAM POWER

Mr. CANNON. There seems to have been some readjustment of your plans, Mr. Leavy. Last year you told us you expected to get a long-term contract in 1957 for the Philpott Dam Power. I think you will find that on page 53 of the hearings, but now you tell us that such contract will not be concluded until the next fiscal year.

What is the cause of the delay?

Mr. LEAVY. There have been two reasons for that, sir:

One is that we have not been capable, as an agency, of carrying on any large number of negotiations and have, therefore, concentrated on those that seemed most urgent.

We have been involved with the negotiations for Buford, Jim Woodruff, and Allatoona primarily in the past year. In the case of the Philpott project we have received under the interim contract the full revenue from the project. Therefore, we have felt that it would be more desirable to direct our attention initially to situations in which we had to have a long-term contract to get the full revenue.

The other reason is that situation which I mentioned earlier. There was a question that was not resolved until a few months ago as to whether certain preferred agencies in the vicinity of the Philpott project would want to purchase power from the project. That question has been resolved. They have decided they did not want to and now we are free to look to other preferred agencies as a market for that power.

Mr. CANNON. Naturally, I take for granted the consumer will prefer power from the nearest source.

Have you any customers who have indicated a preference for Philpott Dam power?

Mr. LEAVY. We have applications for Philpott Power from all of the 12 cooperatives in Virginia in the Vepco service area.

The Philpott project is not in the Vepco service area, but since the preferred agencies in the Philpott area have indicated they do not wish to purchase it, we are seeking means to move that power into the Vepco service area.

Mr. CANNON. Could not those who are in the immediate area be served more economically and more conveniently from Philpott?

Mr. LEAVY. That is doubtful, at least in certain situations. It is a rather involved situation. There are 5 cities in that vicinity, 3 of which have never indicated any interest whatever. We have contacted them several times.

One of the two remaining cities is taking power from Appalachian and has indicated no particular interest in purchasing power from us. The last of the five cities is the city of Danville, which did take the matter under consideration and after considerable deliberation decided that it would not wish to purchase the power at the rate at which it would be available.

Mr. CANNON. Is it a matter of rates? Why wouldn't they want it? Is it that the rate is too high or are there other conditions which render it less desirable?

Mr. LEAVY. In the case of Danville, the situation is that that city has generating facilities of its own and there are, I think, some factors that might make it desirable that they expand their own facilities. They are not connected with any of the power companies in the area, and would, therefore, have to construct facilities into the Philpott project.

If the output of the project was sold to the city of Danville, we would lose the benefit of the integration of Philpott with the Kerr project, and in making a proposal to the city of Danville we had to reflect some of that loss in the price that we would have to charge them.

I think the city of Danville fully understood the situation.

Mr. CANNON. You say it would interfere with the integration with John H. Kerr Dam, but you have told us you have no transmission lines there.

How could you integrate without going to the expense of building a new system of lines?

Mr. LEAVY. Our contract with the Virginia Electric & Power Co. provides that they will wheel power for us for the purpose of integrating the two projects.

Mr. CANNON. Does your contract confine it to that purpose, and that one subject?

Mr. LEAVY. No, sir; the contract provides——

Mr. CANNON. But the contract is such that you could use it for that purpose?

Mr. LEAVY. It has a specific provision for that purpose.

Mr. CANNON. It seems, Mr. Leavy, there are some inconveniences in the way of integration with the John H. Kerr Dam.

Why would it not be possible for you to serve customers who are close at hand?

Mr. LEAVY. It is simply the situation, sir, that on the economic basis on which we could serve them they have indicated no interest in the service.

Mr. CANNON. You have had no indication of any interest in the Philpott production from nearby consumers?

Mr. LEAVY. We have had indications of interest from two cities, but after investigation on their part——

Mr. CANNON. You have had some indication of it?

Mr. LEAVY. We have had indications of interest and after investigation on their part they have voluntarily withdrawn from the situation.

We do have cooperatives east of there in Virginia who are very much interested in it, and we are therefore trying to seek means to sell the power to them.

Mr. CANNON. You have ample power for both purposes?

Mr. LEAVY. No, sir, not out of Philpott. It is a very small project.

Mr. CANNON. I notice that you told us last year there are no preference customers in the service area of the Philpott Dam who have requested power. Up to that time you had no request for Philpott power at all?

Mr. LEAVY. That is correct.

Mr. CANNON. Since that time has there been any change in that respect?

Mr. LEAVY. Yes, sir. What happened was this: When Southeastern was established, letters were sent to all preferred agencies

asking whether or not they were interested. At that time several years ago none of the five cities that I have referred to indicated any interest. However, last fall before taking any final action in the matter, we again contacted the same five cities. At that time two of them responded and indicated they were interested and would like to talk to us about it. Following discussions with both of those cities, they have withdrawn from the situation voluntarily.

JIM WOODRUFF DAM POWER

Mr. CANNON. Has it been decided as to who will get the Jim Woodruff Dam power?

Mr. LEAVY. Yes, sir; that will be sold to cities and cooperatives in the service area of the Florida Power Corp., located within 150 miles of the project.

The situation there is that the rate for Jim Woodruff power will of necessity be higher than the rate presently paid by preferred agencies in south Georgia and south Alabama. However, it is lower than the rate being paid by the preferred agencies in the Florida Power Corp. service area, and there are 4 cooperatives and 3 municipalities that have applied for power there.

The Florida Power Corp. has agreed to wheel power to them, and their loads are approximately the equivalent to the output of the project. It is felt that the entire output of the project will go to those preferred agencies.

Mr. CANNON. Again, and while we are discussing this question last year the area of the customers of the various dams, you told us you had many more preference customer applications for Jim Woodruff power than you could supply.

Has that situation changed, or have you more power or are you still left with a demand you cannot meet?

Mr. LEAVY. As of now, we can approximately meet the demand. The reason for the statement last year was that we had had applications for power from cooperatives, for example, in south Georgia. As matters now stand, the rate those customers presently pay is lower than the rate for Jim Woodruff power. In addition, those customers which have been located in the Georgia Power & Light Co. service area are now part of the Georgia Power Co. service area. The Georgia Power Co. has acquired that company and as a result those south Georgia customers rather than being served from Jim Woodruff will receive power from the Allatoona and Buford projects.

RELATIONSHIP WITH PRIVATE UTILITIES

Mr. CANNON. From what you tell us here, Mr. Leavy, the difficulty seems to stem from the fact that there is apparently some sort of collusion between those power companies down there who are trying—and evidently with success—to compel you to dispose of your power at the bus bar instead of delivering it directly to the consumer.

Of course, on the face of it, and as evidenced by the experience of the Southwestern people, you could deliver it directly to the customers much more economically and it would much better suit their purpose if these dams could each supply its own customers through its own facilities.

Now, that is the situation; is it not?

There is evidently a collusion here on the part of the various companies with the objective or purpose of compelling the sale of your products at the bus bar which, of course, as we know, is not in keeping with the best management and with the most economical management.

What could be done to remedy the situation so that the Government at least could deliver its own power to its own customers over its own facilities?

Mr. LEAVY. I think the situation in the Southeast is this:

Until about a year and a half ago the companies, generally, were not willing to wheel the power. The Virginia Electric & Power Co. agreed some years ago, but the other companies preferred, and I would say insisted, that the power be sold to them at the bus bar, and that they resell it.

However, about a year and a half ago the Georgia Power Co. agreed to wheel power. Shortly before that, the Carolina Power & Light Co. agreed to wheel power and we entered into wheeling agreements with those companies. Since that time there has been a general indication of willingness on the part of the companies to wheel power for the Government. Therefore, we have not been selling power at the bus bar to our preferred agency customers, but have been selling to them at their delivery points by means of wheeling over company facilities.

Mr. CANNON. In other words, they have the alternative now of either accepting it at the bus bar or wheeling it and the Federal Government gives them such a favorable wheeling contract it pays them to wheel the power instead of taking it at the bus bar? In either event, the Federal Government is at a great disadvantage here. It has no alternative. It must sell at the bus bar. It must make a wheeling contract which would be very profitable to the companies.

Why has not there been some movement made to supply transmission lines here?

Mr. LEAVY. There were, of course, various requests made for transmission lines some years ago. The actual fact of the situation is that if proper wheeling agreements can be entered into, we can serve more preferred agencies by means of wheeling agreements than by means of transmission lines.

The area is very large, the projects are scattered, and the customers are also scattered. As you may have noted in the justifications here, in Georgia, for example, we are delivering at 225 points of delivery. We could not possibly amortize the cost of a transmission system which would serve all of those cooperatives for anywhere near the cost that the wheeling contract costs us. I feel that our wheeling contracts——

Mr. CANNON. Would you say that is a temporary advantage and a long-term disadvantage?

Mr. LEAVY. I think as long as the wheeling contracts are on reasonable terms in our particular situation there is no long-term disadvantage in the wheeling contract.

Mr. CANNON. Are you not paying the highest wheeling charge levied anywhere in the country for similar service?

Mr. LEAVY. I believe not, sir. I think they would compare favorably with wheeling contracts elsewhere. I think in some particular situations they may be somewhat less than some others and some

may be somewhat more. It is a little difficult to get direct comparison. I think they are reasonable wheeling fees.

SYSTEM INTEGRATION

Mr. CANNON. You tell us in your justifications at page 6 that one of your 1958 objectives is to study a system integration with Hartwell Dam.

In view of the fact that completion and operation of Hartwell is still a long way in the distant future, are you not anticipating this a little early, and are you not just a little previous in making such a study at this time?

Mr. LEAVY. Well, I assume, and it is my understanding, that the restudy of Hartwell that is now going on will be completed some time this summer, and if, as I hope, the project goes forward, then we will during the budget year have to concern ourselves with it.

Mr. CANNON. You have been showing an activity in your program which you label "Studies of integrated project operations."

How many people are involved in this activity, and what actual integration has been accomplished in the last 12 months just passed?

Mr. LEAVY. It is a little difficult to say precisely how many people are involved. There are about 4 or 5 people involved partly on that integrated operation study. They also perform numerous other functions. We have not initiated any integrated operation as yet, but we have reached agreement with the Georgia power company on a transmission arrangement whereby we will be able to integrate the operation of the Allatoona, Buford, Clark Hill, and Jim Woodruff projects, and we expect that as soon as our sales contracts for the Buford and Jim Woodruff projects are completed, which should be in the next few months, the integrated operation of those projects will commence.

Mr. CANNON. It is difficult to understand just exactly what is taking place here. You are integrating through private systems exclusively. We can understand your integrating with steam in a way, but it is difficult to get the picture of the whole and to understand just what the economic advantages are.

If you have had an opportunity to study other systems, and I take for granted you have, similar to the Southwestern, what would you say are the comparable advantages of handling it in this way entirely through the private system as compared with having your own system, and managing your own system and administering your own system, and dealing direct with your customers?

Mr. LEAVY. I would like to make it clear that we deal directly with our own customers under the wheeling contracts. I would hesitate to make a comparison between our situation and that of some other area.

I suspect that in some other areas the projects are not so widely dispersed as the situation we have. That, I think, is one of our problems.

Mr. CANNON. You think you have an exceptional situation in that respect? On that map, as you doubtless noted this morning when we were discussing the Southwestern area, the operation is scattered over a vast area, which impresses me as being larger than the one you are serving.

Mr. LEAVY. Well, I know that in our situation the dispersal and the amounts make in many cases in operation through construction of facilities an unfavorable operation. Let me give an example.

Mr. CANNON. I wish before you come before us again you would enter into some comprehensive study with the view to a comparison with what could be done, and what could be secured if you handled your own system entirely instead of depending exclusively upon private utilities to distribute your power.

As it is, you get rid of it at the bus bar, and it is out of your hands from that time on. It does not appear from a superficial glance that you are in as good a position to distribute your product as advantageously either to the Government or to your customers as you would be if you could deliver direct to the consumers.

Before you come before us again make some study of that. In the meantime we might make a study of it also.

Mr. LEAVY. We will be glad to do that.

Mr. FENTON. Mr. Chairman, will the gentleman yield?

Mr. CANNON. Dr. Fenton.

Mr. FENTON. I believe Mr. Leavy has stated that they found it more economical to deal with the situation in this fashion rather than building their own powerlines.

Mr. CANNON. I heard his statement, but it does not occur to me that they are getting the results they are getting down in the Southwestern area. It may be that Southwestern should abandon its system and distribute entirely through private sources. However, by comparing the two systems from this point of view, it appears that Southeastern is at a disadvantage.

FINANCIAL OPERATIONS

Mr. FENTON. Of course, Mr. Chairman, the representatives who were here from Southwestern admitted that they were operating in the red at the moment, while these people are operating in the black.

Mr. CANNON. That was due to the system of production of their waterpower and similar problems, rather than the question of distribution. We are just discussing the cost of distribution here.

I will ask you at this time whether or not during the previous 10 months you have operated in the red?

Mr. LEAVY. I think this becomes a question of terminology. In our view we have not operated in the red. We have not repaid the average repayment requirements during the past several years because of low-water conditions.

Mr. CANNON. That is the point. Whenever you fail to pay them, you are operating in the red.

Mr. LEAVY. If you will excuse me, sir, when the rates are set, we presume that there will be an average amount required to amortize the project. During high-water years, we will realize more than the required amount and during low-water years we expect to get less than the required amount.

We have been having a low-water situation for the past several years, and for that reason have collected less than the average amount. We fully expect that the cycle will turn and that in future years we will collect more than the average requirement. Therefore, we feel that we are properly repaying although because of the low water that has occurred we have not collected the average requirement.

I do not feel that we are in the red, however.

Mr. CANNON. You appear to be operating, then, sometimes in the red and sometimes in the black.

Suppose you submit in connection with your testimony the dates on which you have paid in full and the dates on which you have not paid; in other words, the dates on which you have been operating in the red, and the dates on which you were operating in the black, and just what you expect the system to be in 1958 in view of the recent rainfall which, as I understand it, has been ample in recent months.

You have had ample rainfall in recent months?

Mr. LEAVY. It has been ample in the last month or so; yes, sir.

Mr. CANNON. You now have full reservoirs?

Mr. LEAVY. Yes, sir.

Mr. CANNON. And you anticipate no difficulty from that feature in the coming fiscal year 1958?

Mr. LEAVY. We cannot predict what will happen. If conditions remain as they are, we will be better off.

(The matter referred to follows:)

Project costs and revenues

Project	Average annual cost (in thousands)	Revenues (in thousands)						
		Fiscal year 1951	Fiscal year 1952	Fiscal year 1953	Fiscal year 1954	Fiscal year 1955	Fiscal year 1956	Cumulative average
Cumberland	$3,944			$1,982	$1,523	$3,950	$5,070	$3,131
Allatoona	1,106	$924	$1,165	955	964	842	883	962
Clark Hill	3,859				2,620	2,045	3,674	2,780
John H. Kerr [1]	3,695				2,108	2,503	2,789	2,467
Philpott	371				166	198	206	190

[1] Amounts exclude firming energy costs.

NOTE.—All years shown, except fiscal year 1951 for Allatoona and fiscal year 1956 for Cumberland projects, have been years of less than average waterflows. Years with higher than average waterflows during 50-year repayment period will compensate for reduced revenues resulting from low flows.

PROJECT COSTS

Mr. CANNON. Will you insert in the record at this point a table similar to that which you gave us last year on page 57 of the hearings?

Mr. LEAVY. I am familiar with that table; yes, sir.

(The matter referred to follows:)

Project costs

Project	Estimated total construction cost	Operation and maintenance of power facilities [1]	Marketing costs
Wolf Creek	$79,080,000	$230,000	$13,000
Center Hill	44,365,000	180,000	7,000
Dale Hollow	25,921,000	190,000	5,000
Allatoona	31,321,000	157,000	19,000
Clark Hill	78,540,000	472,000	100,000
John H. Kerr	87,150,000	405,000	105,000
Jim Woodruff	46,380,000	114,000	30,000
Philpott	13,340,000	81,000	12,000
Old Hickory	47,600,000	212,000	17,000
Buford	39,364,000	156,000	26,000
Cheatham	30,300,000	115,000	8,000
Fort Gaines	88,000,000	175,000	65,000
Hartwell	94,300,000	300,000	75,000
Barkley	167,000,000		

[1] Does not include cost of purchased power and transmission charges.

Power produced in fiscal year 1956

Project	Installed generating capacity (kilowatts) [1]	Peak generation (kilowatts)	Energy (kilowatt-hours)
Wolf Creek	270,000	313,000	896,166,000
Center Hill	135,000	154,000	344,714,000
Dale Hollow	54,600	59,000	129,060,000
Allatoona	74,000	89,100	92,874,000
Clark Hill	280,000	166,600	346,514,256
John H. Kerr	204,000	249,700	421,640,745
Philpott	14,000	12,610	16,152,600

[1] Nameplate rating of installed capacity.

PROJECT REVENUES, EXPENSES AND REPAYMENTS

Mr. CANNON. Please furnish to the committee a table with additional columns which will show the current project repayment status.

Mr. LEAVY. Very well, sir.

(The matter referred to follows:)

Southeastern Power Administration—Statement of project revenues, expenses, and repayment of investment

Project (fiscal year)	Operating revenue	Electric operating expenses	Operating revenue less operating expenses	Interest on unamortized investment	Amortization of investment [1]	Additions to electric plant in service	Remaining Federal investment	Cumulative repayment of capital
Cumberland (Dale Hollow, Center Hill, Wolf Creek):								
1949	$295,700	$83,273	$212,427		$212,427	$14,948,490	$14,736,063	$212,427
1950	785,700	140,969	644,731	$296,100	348,631	137,871	14,525,303	561,058
1951	1,552,500	283,622	1,268,878	291,806	977,072	27,541,790	41,090,021	1,538,130
1952	4,147,600	479,498	3,668,102	825,463	2,842,639	55,413,966	93,661,348	4,380,769
1953	1,982,100	594,173	1,387,927	1,887,709	(499,782)	1,448,230	95,609,360	3,880,987
1954	1,523,300	579,676	943,624	1,915,447	(971,823)	2,267,099	98,848,282	2,909,164
1955	3,950,000	624,082	3,325,918	1,978,154	1,347,764	118,878	97,619,396	4,256,928
1956	5,070,000	622,700	4,447,300	1,952,409	2,494,891	2,073	95,126,578	6,751,819
Allatoona:								
1950	[2] 249,769	71,851	177,918	151,226	26,692	24,133,654	24,106,962	26,692
1951	[2] 923,965	154,093	769,872	613,149	156,723	838,003	24,788,242	183,415
1952	[2] 1,165,245	122,354	1,042,891	620,027	422,864	25,697	24,391,075	606,279
1953	[2] 1,004,145	164,803	839,342	611,810	227,532	162,626	24,326,169	833,811
1954	[2] 986,292	173,021	813,271	608,306	204,965	12,178	24,133,382	1,038,776
1955	[2] 850,802	158,295	692,507	603,848	88,659	41,092	24,085,815	1,127,435
1956	[2] 883,275	144,917	738,358	602,323	136,035	14,185	23,963,965	1,263,470
Clark Hill:								
1953	631,177	327,796	303,381	221,320	82,061	31,759,681	31,677,620	82,061
1954	2,621,669	381,188	2,240,481	1,101,701	1,138,780	31,939,113	62,477,953	1,220,841
1955	2,046,916	435,673	1,611,243	1,815,713	(204,470)	11,367,721	74,050,144	1,016,371
1956	1,870,305	447,055	1,423,250	1,851,626	(478,376)	29,758	74,508,278	587,995
John H. Kerr:								
1953	1,396,157	667,962	728,195	396,168	332,027	37,213,859	36,881,832	332,027
1954	2,709,111	1,399,858	1,309,253	1,458,111	(148,858)	33,771,403	70,802,093	183,169
1955	2,807,350	1,066,828	1,740,522	1,773,376	(32,854)	265,869	71,100,816	150,315
1956	3,477,689	1,500,553	1,977,136	1,781,771	195,365	340,086	71,245,537	345,680
Philpott:								
1954	166,556	112,507	54,049	134,781	(80,732)	7,315,447	7,396,179	(80,732)
1955	197,606	109,761	87,845	185,185	(97,340)	22,442	7,515,961	(178,072)
1956	206,121	112,507	93,614	187,964	(94,350)	5,193	7,615,504	(272,422)
Total, all projects:								
1949	295,700	83,273	212,427		212,427	14,948,490	14,736,063	212,427
1950	1,035,469	212,820	822,649	447,326	375,323	24,271,525	38,632,265	587,750
1951	2,476,465	437,715	2,038,750	904,955	1,133,795	28,379,793	65,878,263	1,721,545
1952	5,312,845	601,852	4,710,993	1,445,490	3,265,503	55,439,663	118,052,423	4,987,048
1953	5,013,579	1,754,734	3,258,845	3,117,007	141,838	70,584,396	188,494,981	5,128,886
1954	8,006,928	2,646,250	5,360,678	5,218,346	142,332	75,305,240	263,657,889	5,271,218
1955	9,852,674	2,394,639	7,458,035	6,356,276	1,101,759	11,816,002	274,372,132	6,372,977
1956	11,507,390	2,827,732	8,679,658	6,376,093	2,303,565	391,295	272,459,862	8,676,542

[1] Amortization of investment is being accomplished on a 50-year basis.
[2] Includes headwater benefits.

NOTE.—Repayment figures have been revised from previous tabulations to reflect revised financial practices and latest cost data.

Mr. CANNON. Mr. Evins.

Mr. EVINS. Mr. Leavy, how much do you anticipate it would cost to build your own system of belt lines?

Mr. LEAVY. I could not hope to give a very reasonable estimate. I know this: We have investigated the cost of building lines to connect the Philpott and Kerr projects, and found that we could not afford to do that as compared with the cost under wheeling agreements.

I know that at the time the Vepco agreement was under negotiation we made studies to see what we could do with our own transmission lines in that situation, and we found that if we built our own lines, we could serve four cooperatives. If we had a wheeling agreement, we could serve 12.

Mr. EVINS. In other words, you have not made any study of the overall cost for a system to serve all of the area? You have made an isolated study in one or two instances, but you have not made a study of what the cost would be to build your own distribution system?

Mr. LEAVY. I do not believe that we have ever made a study that would cover service to all of the customers we are now serving. We have made some partial studies but I do not believe a complete study of the kind you mentioned has been made.

Mr. EVINS. In the 1 or 2 instances in which you have made the study you have found that on a 1-year or 2-year basis that the wheeling charge method would be more advantageous temporarily to the Government?

Mr. LEAVY. That is correct. The problem that we have which may not exist in other areas is that there are many, many preferred agencies, and they have multiple points of delivery. One customer may have a half a dozen points of delivery from the company, and that would mean in trying to serve them in the same way, you would run into much greater investment than if you had a situation where the customer has some of his own internal transmission system, and takes power at one point.

Mr. EVINS. You have not contracted for any study and you have not made any study of your own? Have you made any approximate estimates of the cost of building your own system?

Mr. LEAVY. I do not believe that we have ever made a comprehensive study that would cover the whole area.

Mr. EVINS. Even no estimates?

Mr. LEAVY. We have made estimates on certain transmission, but not on lines to serve all of our customers. I know that it would be prohibitive.

Mr. EVINS. Well, basically on all, or 90 percent, or the bulk of your customers have you made an estimate of the cost for building a system to serve all of your customers? Of course, I know that there might be out at the end of the line a customer or so and you have not included them when you say "all."

Mr. LEAVY. We have never made a comprehensive estimate that would cover all of the customers. We have made partial estimates to serve customers near the projects which pretty clearly indicated what the results would be.

Mr. EVINS. What was the overall amount of these estimates as to the costs?

Mr. LEAVY. I would not want to hazard a guess, sir. I think it would be an extremely great amount.

Mr. EVINS. Well, you said you had made an estimate of what it would cost to serve those customers in the adjacent vicinity. Can you tell the committee in approximate, round figures, the amount of that estimate? You ought to have that information.

Mr. LEAVY. I do not have that. That was 4 or 5 years ago, and I would be misleading you, I am afraid, if I gave them.

Mr. EVINS. Will you supply that information for the record—your estimate of 4 or 5 years ago?

Mr. LEAVY. Yes, sir. I will supply what I can dig out on that, sir.

Mr. EVINS. I wish you would, Mr. Leavy.

(The matter referred to follows:)

TRANSMISSION LINE COST ESTIMATES

In the spring of 1952 cost estimates were made for a transmission system to physically tie together Federal projects in the Southeast. The projects involved were Philpott, John H. Kerr, Hartwell, Clark Hill, Buford, Allatoona, Fort Gaines, and Jim Woodruff. This transmission system involved construction of 831 miles of 230 kilovolts and 207 miles of 115 kilovolt-transmission line with the necessary substation facilities to provide for interconnection between sections of integration facilities, points of delivery to load centers, and connections to other electric systems. The estimate for construction at that time was $32,025,000 for transmission facilities and $10,898,000 for substation facilities, making a total of $42,923,000. This adjusted to present-day construction costs would amount to a total of approximately $57 million.

In the summer of 1951 cost estimates were made for a transmission system extending from John H. Kerr (Bugg's Island) project to serve preference customers located in Virginia adjacent to the project. These preference customers consisted of four cooperatives having at that time 17 points of delivery. These preference customers were the Mecklenburg Electric Cooperative, Southside Electric Cooperative, Prince George Electric Cooperative and Community Electric Cooperative. This transmission system involved construction of 228 miles of 115 kilovolts, 197 miles of 69-kilovolt transmission line, and 17 terminal substations. The estimate for this construction at that time was $6,647,000 for transmission facilities and $3,237,000 for terminal facilities, making a total of $9,884,000. This adjusted to present-day construction costs would amount to a total of approximately $13,400,000.

In the spring of 1952 cost estimates were made for transmission facilities to serve 6 delivery points of the Planters Electric Membership Corporation located south of the Clark Hill project in Georgia. These facilities involved construction of 40 miles of 115 kilovolts, 102 miles of 69-kilovolt transmission line and 6 terminal substations. The estimate for construction at that time was $1,882,000 for transmission facilities and $854,000 for terminal facilities, making a total of $2,736,000. This adjusted to present-day construction costs would amount to a total of approximately $3,650,000.

Mr. EVINS. Is it not a fact that as a result of the hearings before this committee last year, or a few years ago, when there was a threat of the building of a connecting line between Clark Hill and Jim Woodruff that the Georgia Power people came before this committee and said "in view of this proposal we will wheel the power and transmit the power rather than having the Government do it?"

It was the result of the work of this committee that caused them to move into the position in which they are now in, or at least, was a contributing factor?

Mr. LEAVY. I have no doubt in my own mind that our ability to enter into wheeling agreements has been increased greatly but that

situation to which you refer. I know in certain specific situations it is a direct result of the action of the Congress.

Mr. EVINS. Most all of the other integrated systems have a connecting powerline between the major hydroelectric power units. Here you have Clark Hill in the Southeast, and Jim Woodruff on the Southwest, and it would seem only reasonable as a matter of efficiency that you would want to have a connecting system between those two projects.

Mr. LEAVY. If we can accomplish the same purpose more cheaply by other means, it is our view that that is more desirable.

Mr. EVINS. Well, it is the view of this committee, too, that that would be desirable, but that is just what we are asking you. If you have not made any studies—and you said you had not for the past several years—you cannot give us any estimate as to the cost. I think you must have those figures available. Surely, you have made some studies or have some estimates.

Mr. LEAVY. If I could find some of the old estimates, I will be glad to file them for the purpose of the record.

PURCHASE OF POWER AND WHEELING CHARGES

Mr. EVINS. I notice in your request that $991,000 is to be paid to the Virginia Electric Power Co., $190,000 to the Carolina Power Co., and $500,000 to the Georgia Power Co. That is a total of $1,681,000 in 1 year for wheeling charges. When you multiply that by 20 years, which would be half the time that you consider for the amortization of the system because most of these Government dams pay out on a 40-year to 50-year basis, that will be a total of $33,620,000 that you will pay to those 3 power companies alone, if this system continues for 20 years. In other words, you would have paid to those 3 private utilities a total of $33,630,000 for wheeling charges alone. It seems to me that you will soon approximate through expenditures of this type an amount whereby you can build a distribution system which would save the payment of these charges, and over a 40-year basis, it would amount to twice that amount.

It would not take long, it seems to me, for the Southeast Power Administration to make some studies along this line as to the costs involved.

Mr. LEAVY. We have made some studies, and I am very sure that the result is that what we are doing is the cheapest way to do it, sir. However, I shall be glad to go back into that, and see what I can find.

Mr. EVINS. Do you have any provision in your contracts whereby the Southeastern Power Administration could have a right of redress, if it decided to do so, against private utilities who put out propaganda or false information against the Government or another agency of the Government?

Mr. LEAVY. There is no provision in any of our contracts relating to that; no, sir.

Mr. EVINS. I understand it would not be a direct provision, but I wonder if you do not have some weapon that you could use when one utility which you are serving or with which you have a contract repeatedly puts out propaganda against another agency of Government? In other words, it amounts to secondary boycotting?

Mr. LEAVY. The only weapon, if you would want to call it that, that we would have would be the right to discontinue the contract after a certain period of time. Our contracts are for 10-year periods with automatic renewal unless notice of cancellation is given.

If we had an untenable situation we could, of course, after the lapse of enough time, give notice of cancellation.

Mr. EVINS. What in your opinion would constitute an untenable situation?

Mr. LEAVY. I do not know, sir.

Mr. EVINS. Mr. Chairman, that is all.

DAMS IN OPERATION

Mr. CANNON. Dr. Fenton.

Mr. FENTON. Mr. Leavy, how many reservoirs or dams are under your durisdiction?

Mr. LEAVY. There are now nine in operation.

Mr. FENTON. Which ones are not in operation?

Mr. LEAVY. Over in the Kentucky and Tennessee area we have Wolf Creek, Dale Hollow, Center Hill and Old Hickory in operation.

Moving to the east, we have Philpott and John H. Kerr, in operation.

Moving to the south we have Clark Hill, Allatoona, and Jim Woodruff in operation.

The Buford project will be in operation in a month or so. The Cheatham project will be in operation in the next fiscal year.

Those are the only projects that are in operation, or will be in operation in the immediate future. In addition, the Hartwell project, if work is resumed, will be under construction and the Fort Gaines project is under construction. I believe the Barkley project in Kentucky is also under construction.

Mr. FENTON. I wonder if you would insert a table of all those reservoirs together with the estimated cost of these projects into the record at this point?

Mr. LEAVY. Yes, sir. I believe that most of them would appear in the tabulation that the chairman requested similar to that of last year, but I will include all of those projects.

Mr. FENTON. Very well.

(The information requested may be found on p. 675.)

PHILPOTT DAM POWER

Mr. FENTON. With reference to the Philpott project, it is my understanding that you are having difficulty in disposing of the power there?

Mr. LEAVY. I would not say that we are having difficulties, sir. I would say that we have not been able to get to the job. I think that it can be disposed of without difficulty.

Mr. FENTON. Was the Philpott project established principally for flood control?

Mr. LEAVY. Yes. It is a flood-control project.

Mr. FENTON. You continued in your testimony to talk about five cities that were not particularly interested in power.

Mr. LEAVY. Yes, sir.

Mr. FENTON. Do you mind naming those cities?

Mr. LEAVY. I do not recall the names of three of them. The cities of Danville and Martinsville are the two with whom we have had some discussion. I can supply the other names for the record if you wish them, sir.

Mr. FENTON. If you will.

Will you insert in the record at the same time the reasons for their not being interested, particularly?

Mr. LEAVY. All right.

(The matter referred to follows:)

By letter dated June 1, 1956, the 5 preferred agencies within 50 miles of the Philpott project were offered project power and asked if they were interested. These agencies are the cities of Danville, Martinsville, Salem, Radford, and Bedford, Va. No reply was received from the last three. Replies were received from Danville and Martinsville and meetings were held with them.

At a meeting on November 13, 1956, with representatives of the city of Martinsville, the city manager and superintendent of the electric department informed Southeastern's representatives that, in view of the basis on which power could be made available and the fact that the city was happy with its service from and relationship with Appalachian Electric Power Co., it would not be interested in purchasing Philpott power.

On January 18, 1957, the following letter was received from the city of Danville:

JANUARY 17, 1957.

Mr. THOMAS H. WIGGLESWORTH,
Chief, Division of Power Operations,
Southeastern Power Administration, Elberton, Ga.

DEAR MR. WIGGLESWORTH: I have been instructed by Mr. T. E. Temple, our city manager, to advise you that the city of Danville is not interested in negotiating a contract for the Philpott Dam power at the cost as submitted by Mr. Craig and substantiated by data from you.

We wish to express our appreciation to you and your representatives for the opportunity given the city to consider the purchase of this power. Our conferences and discussions with Mr. Craig and Mr. Rucker were very informative and enjoyable. We wish to thank them for their patience in allowing the time which has been required for our studies to be completed in order that we could reach our decision. We will be happy to have you or any of your representatives visit us at any time.

Yours very truly,

B. G. ADKINS,
Superintendent, Electric Department.

Mr. FENTON. I understand that Danville has its own facilities.

Mr. LEAVY. That is correct, sir.

TVA PURCHASES

Mr. FENTON. To whom do you dispose this power, mostly, outside of the companies that you have enumerated? Do you dispose much to the TVA?

Mr. LEAVY. The TVA purchases the entire output of the Wolf Creek, Dale Hollow and Center Hill projects, and will purchase the output of the Old Hickory and Cheatham project. Those are all in the Cumberland River Basin.

Mr. FENTON. What are the comparable rates to TVA as compared to the other companies?

Mr. LEAVY. It is a little difficult to make a direct comparison. I would say that the TVA rates are somewhat lower than the other rates for the reason that those projects were built before the others. They are lower-cost projects for the amount of capacity that they

have than some of the other projects. The TVA rate is designed to pay out the cost of the projects—the power costs.

Mr. FENTON. Do you know how much lower the rates are? Do you have that figure on hand?

Mr. LEAVY. I could not say offhand, because as I say, the rates are not directly comparable. TVA's rate is not geared to a per-kilowatt or per-kilowatt-hour rate. It is a flat annual charge, which varies upward or downward, depending upon the water flow. Therefore, it is difficult to directly compare it to another rate.

Mr. FENTON. You made a statement as to the reason you are behind in your repayments. Is that one of the reasons you are lagging behind in your repayments, the cheaper power to TVA than the others?

Mr. LEAVY. No, sir; because the projects are accounted for individually. The Cumberland projects are handled as a unit, and other projects are handled, either in groups or individually, but the situation with respect to the Cumberland projects does not affect our pay-out on other projects.

Mr. FENTON. It does not?

Mr. LEAVY. It does not; no, sir.

Mr. FENTON. Is it not true that the GAO reported that power from Wolf Creek, Center Hill and Dale Hollow was being sold to TVA at less than cost?

Mr. LEAVY. There is, and has been, a difference of opinion as to the method of allocation and the interest rate to be applied to the Cumberland projects.

In 1948, I believe, the Interior Department executed a contract with TVA based upon an incremental cost allocation. The Corps of Engineers has not agreed that that method of allocation should be used, and the General Accounting Office has adopted the corps' figures as to the power cost of the project.

Interior has taken the view that the contract which was entered into was entered into upon a reasonable basis; that the legislative history of those particular projects justifies the incremental method of cost allocation, and has submitted the contract, or the rates in the contract, to the Federal Power Commission for approval, upon the basis of the original contract.

That matter is still pending before the Federal Power Commission. The difference arises from a difference of opinion between Interior and the Corps of Engineers as to the allocations.

CLARK HILL POWER

Mr. FENTON. Is it not true that the Clark Hill power is being distributed by the Georgia Power Co. at a wider area and at a much lower cost to the preference customers than could be obtained through direct Federal transmission?

Mr. LEAVY. It is my opinion that that is the case. The other members have asked for some substantiation of that.

Mr. FENTON. I understand that. I wish at the same time you are giving that information that you would take into consideration the relative amount of taxes that would be lost by the Government wheeling the power.

Mr. LEAVY. I am not sure that I would be capable of getting that into this.

Mr. FENTON. That would be one factor that should be taken into consideration in a general overall consideration of the matter, would it not?

Mr. EVINS. Will the gentleman yield?

Mr. FENTON. Yes.

TVA PURCHASES

Mr. EVINS. One other factor the gentleman failed to mention with respect to the sale of power to TVA is that about 60 percent of the power is used by the Federal Government. It goes to the Government.

Mr. FENTON. I do not think it would be in this particular area.

Would you say that this is generally true for the entire area in which you operate?

Mr. LEAVY. What is that, sir? About the relative cost of service by wheeling agreements, as compared to construction of lines?

Mr. FENTON. That is right.

Mr. LEAVY. I would say it is generally true in the area.

CLARK HILL POWER

Mr. FENTON. Was it not estimated that direct transmission to Clark Hill would cost about $75 million?

Mr. LEAVY. I could not verify that. There were various plans. I do not know just what that particular one might have involved in the way of serving particular customers. I am sorry.

WHEELING COSTS

Mr. FENTON. Regarding the discussion here between the gentleman from Tennessee and myself as to the cost of some of these transmission lines over a period of years—what you are paying for wheeling would, I take it, pay for the borderlines. Certainly an estimate of just one line being $75 million, that was, of course, with reference to Georgia Power Co. loads now being served, and yet to my mind there is one line here that certainly costs more than all of those others.

If this same relative cost were to apply to all power distributed by Southwestern, would not the total transmission cost run to about $300 million?

Mr. LEAVY. I really do not know, sir. I would be guessing if I stated a figure.

BUFORD POWER

Mr. FENTON. In Georgia, you have the Allatoona and Buford projects. When will the Buford plant come into operation?

Mr. LEAVY. The first generator is scheduled for the 10th of June, next month.

Mr. FENTON. Has a contract been entered into to dispose of the power?

Mr. LEAVY. No, sir. We are negotiating with Georgia Power Co., the cooperatives and municipalities in Georgia on that now. I think the contracts will be entered into reasonably soon.

Mr. FENTON. Have necessary transmission lines been constructed to carry the Buford power?

Mr. LEAVY. The Georgia Power Co. will have to build 5 miles of line into the project. They have acquired the right-of-way and are ready to proceed to construct the 5 miles of line.

Mr. FENTON. Will the present rates of power from the various projects provide sufficient revenue to make the repayment required by law?

Mr. LEAVY. It is our opinion that the present rates will repay the projects in the 50-year payout period.

Mr. FENTON. With the possible exception of the Cumberland River project?

Mr. LEAVY. In our view, the proper repayment is being made on the Cumberland contract.

Mr. FENTON. Thank you very much.

Mr. CANNON. Mr. Budge.

TERMS OF CONTRACTS

Mr. BUDGE. Mr. Leavy, I noticed you referred to a number of long-term contracts. How long do those contracts run?

Mr. LEAVY. The TVA contract, I believe, runs for 20 years. I believe it is cancelable after 20 years. The Allatoona contract with the Georgia Power Co. runs to February of 1960.

Mr. BUDGE. How long was it to begin with?

Mr. LEAVY. It was a 10-year contract.

Mr. BUDGE. Entered into in 1950?

Mr. LEAVY. It became effective in 1950; yes, sir. The other contracts, the wheeling contracts that we have, are all 10-year contracts which automatically renew for successive 5-year periods unless either party gives 3 years' notice of cancellation.

Mr. BUDGE. Do you have any other long-term contracts besides the two you have mentioned, TVA and the Georgia Power Co.?

Mr. LEAVY. They are the three wheeling contracts with the Georgia Power Co., Carolina Power & Light Co., and Virginia Electric & Power Co. Those are the ones to which I just referred.

Mr. BUDGE. But no more for the sale of power?

Mr. LEAVY. We have the contracts with the municipalities and the cooperatives and those contracts are termed or geared to the wheeling contract that is necessary to their performance.

Mr. BUDGE. Is there any variation in these contracts as to the rates that you receive?

Mr. LEAVY. Let me add on this long-term contract question that we also have long-term contracts with Greenwood and Santee-Cooper. Those are 20-year contracts.

Mr. BUDGE. When were they entered into?

Mr. LEAVY. I believe in 1952, or thereabouts.

Mr. BUDGE. Go ahead. I interrupted you.

Mr. LEAVY. The rates in the various contracts differ as between projects. They do not differ as between types of customers at a particular project.

Mr. BUDGE. Do you feel that if you had that power to sell that is tied up under long-term contracts that you could get more for it now than you got originally back in 1948, 1950, and 1952?

Mr. LEAVY. I would be doubtful.

Mr. BUDGE. But you could get a better rate?

Mr. LEAVY. I would doubt we could get a better rate, or materially better.

Mr. BUDGE. Do the contracts with the private utilities have any cancellation clause in them?

Mr. LEAVY. The only cancellation in the wheeling contract is that, upon 3 years' notice, we can prevent their automatic renewal for 5-year terms, after the initial 10-year terms. They cannot be canceled during the first 10 years.

Mr. BUDGE. In this long-term contract with Georgia Power Co., how many kilowatt-hours does that encompass annually?

Mr. LEAVY. I guess the average number of kilowatt-hours annually is about 150 million. It is approximately 150 million kilowatt-hours a year. That contract can be canceled at 3 years' notice. Of course, it has less than 3 years to run now.

PAYOUT CALCULATION

Mr. BUDGE. Taking the three Cumberland projects, is there any difference, using those as an illustration, between their payout status and any of the other projects? Do you lump them all together?

I understood you took them individually for payout purposes.

Mr. LEAVY. We lumped the three Cumberland projects together, but we do not lump them with the other projects.

Mr. BUDGE. Is their payout status the same as the rest of them?

Mr. LEAVY. I would say offhand that their payout status is probably better, since we have had better water conditions in that area than we have in the others for the past several years.

Mr. BUDGE. If it has not been previously requested, I wish you would insert a table that would show the payout status with respect to each grouping, particularly with regard to the ones where the private power companies are purchasing this power on a 10-year basis.

Mr. LEAVY. I believe that is covered in one of the earlier requests. I will supply that.

Mr. FENTON. Will the gentleman yield?

Mr. BUDGE. Yes, sir.

REVENUE

Mr. FENTON. Why is the expected revenue in those 3 projects, Wolf Creek, Center Hill, and Dale Hollow, expected to decrease from $5,070,000 in 1956 to $3,950,000, or a decrease of $1,120,000 in revenue?

Mr. LEAVY. That contract provides for an annual payment of $3,950,000, which is based on average water conditions. If there is low water, the payment goes down. If there is high water it goes up.

In projecting our estimates for the budget year, we have simply had to assume average water. This year we have already gotten enough water that we know that the payment will be the $5,070,000 figure.

Mr. FENTON. Thank you.

Mr. BUDGE. Why would not that be true with all the rest of the projects, where your estimated revenues go up substantially between 1956 and 1958?

Mr. LEAVY. In the other projects, the 1958 estimate is also based on the assumption of average water conditions. To date, this year, on those projects we have had less than average, so our actual revenue has been less than our projection, based on average conditions.

Mr. BUDGE. Is each of these projections for estimated revenue for 1957 and 1958 based upon average water conditions? Is that the only basis for the estimate?

Mr. LEAVY. The 1958 estimates are based solely on average water conditions. The 1957 estimates are based upon actual conditions to date and average conditions for the balance of this fiscal year.

Mr. BUDGE. Then if your water conditions have been better in the TVA area, why are the three Cumberland projects only listed at the median water year?

Mr. LEAVY. That is for the next fiscal year.

Mr. BUDGE. Fiscal year 1957.

Mr. LEAVY. I know where we are getting confused. I will place in the record a revision of this revenue estimate, to take into account actual conditions since this estimate was made. The estimate that is attached to the statement was made in January, I believe, and since that time there has been a material increase in the water flows at the Cumberland projects, and so our present estimate has been increased for those projects for this fiscal year. That is one tabulation that I am putting in the record.

RATES

Mr. BUDGE. What is the average rate received per kilowatt-hour by the Southeastern Power Administration?

Mr. LEAVY. It would vary from project to project, and from customer to customer.

Mr. BUDGE. Would you insert that table in the record?

Mr. LEAVY. Yes. I can.

Mr. BUDGE. Accompanying that, would you insert a table in the record of the resale charge which is made by the ultimate retailer of that power?

Mr. LEAVY. I could try to assemble that. That would be a very voluminous assembly of rates, I am sure.

Mr. BUDGE. Couldn't you take it as it applies to Georgia Power Co., and then an average of the cooperatives that would purchase from the Southeastern Power Administration, and then take TVA? Those would be the three big categories; would they not?

Mr. LEAVY. Let me get that straight. What you would like is the average rate, let us say, of Georgia Power, Georgia cooperatives, and TVA to consumers?

Mr. BUDGE. That is correct.

Mr. LEAVY. In TVA there would not be any consumers there, since they sell wholesale.

Mr. BUDGE. But they have ultimate retailers selling the power that is coming from the Southeastern Power Administration system; have they not?

Mr. LEAVY. Yes. You would take one of the retailers in the TVA area.

Mr. BUDGE. And average it for the retailers.

Mr. LEAVY. I will try to get that.

Mr. BUDGE. I think that information is available. It will just have to be assembled.

(The matter referred to follows:)

Average rate per kilowatt-hour by customers

	Allatoona	Wolf Creek, Dale Hollow, Center Hill	John H. Kerr-Philpott	Clark Hill
Private utility companies	9.12		11.46	5.21
Rural electric cooperatives			6.86	5.96
Local public systems			7.40	5.43
Federal agencies		3.70		

Comparative residential rates

	100 kilowatt-hours	250 kilowatt-hours	500 kilowatt-hours
Atlanta, Ga. (served by Georgia Power Co.)	$3.61	$6.13	$8.65
Warner Robins, Ga. (served by Flint Electric Membership Corp.)[1]	3.60	6.10	8.60
Henderson, Tenn. (served by Southwest Tennessee Electric Membership Corp.)[2]	3.50	6.00	7.90

[1] Purchases power wholesale from Georgia Power Co. and Southeastern Power Administration.
[2] Purchases power wholesale from Tennessee Valley Authority.

Source: Typical residential electric bills, 1956, Federal Power Commission (FPC Rept. 53).

Mr. BUDGE. That is all the questions I have, Mr. Chairman.

Mr. CANNON. Thank you.

Are there any further questions?

Mr. FENTON. I have one more question, Mr. Chairman.

Mr. CANNON. Dr. Fenton.

TVA PURCHASES

Mr. FENTON. If the Corps of Engineers allocation on Wolf Creek, Dale Hollow, and Center Hill has to be used, what increase would be necessary in TVA revenue?

Mr. LEAVY. I am just speaking from memory. My guess would be on the order of $700,000 or $800,000 or $1 million a year. I think it is something like that.

Mr. FENTON. Thank you.

Mr. BUDGE. Mr. Chairman, could I ask one further question?

Mr. CANNON. Mr. Budge.

LONG-TERM CONTRACTS

Mr. BUDGE. Mr. Leavy, do you have only two long-term contracts for the sale of power? I do not mean the wheeling, but for the sale of power? You said TVA and Georgia Power Co. Is that all of the long-term contracts that you have?

Mr. LEAVY. No. All of the contracts with the cooperatives are long-term contracts for the sale of power. There are 17 of those in the VEPCO area, 16 in the C. P. & L. area, and 79 in the Georgia Power Co. area.

Mr. BUDGE. The only private utility with which you have a long-term contract is Georgia Power Co.; is that right?

Mr. LEAVY. Other than the three wheeling contracts, which also involve some sale to the companies.

Mr. BUDGE. The length of those contracts is what?

Mr. LEAVY. The 3 wheeling contracts are the contracts which run for 10 years with automatic 5-year successive renewals, unless either party gives notice that he does not wish the contract to renew itself.

Mr. BUDGE. When does each of those expire?

Mr. LEAVY. The VEPCO contract was signed on August 8, 1952, so the 10 years runs from that date. The Carolina Power & Light Co. contract was signed on December 7, 1955, and the Georgia Power Co. wheeling contract was signed on May 16, 1956. Each runs from those respective dates.

Mr. BUDGE. That is all, Mr. Chairman.

Mr. EVINS. Mr. Chairman——

Mr. CANNON. Are there any further questions?

Mr. EVINS. One or two, if I may, Mr. Chairman.

Mr. CANNON. Mr. Evins.

Mr. EVINS. I believe your testimony indicated that Southeastern Power Administration has 200 contracts. You have long-term contracts with 200 different distribution companies?

Mr. LEAVY. The estimates we will have when we complete our arrangements on Buford and Jim Woodruff.

Mr. EVINS. I believe you testified that with respect to Cumberland, the payout situation appeared better than in other areas.

Mr. LEAVY. We have had better water conditions. That is why, sir.

Mr. EVINS. That is all, Mr. Chairman.

TVA RATES

Mr. CANNON. Have you increased your rates to TVA in recent years?

Mr. LEAVY. Yes, sir. About a year and a half ago the basic payment was increased from $3.5 million to $3,950,000 a year. The reason for that was that the original rate was based upon estimates, in a large part, of capital costs and operation and maintenance expenses, and the adjustment was made to reflect the actual costs which were incurred.

Mr. CANNON. And that rate will obtain during the fiscal year 1958?

Mr. LEAVY. Yes, sir.

LANGUAGE CHANGE

Mr. CANNON. We will insert in the record at this point the explanation of the language change proposed by Southeastern Power Administration.

(The information referred to follows:)

SOUTHEASTERN POWER ADMINISTRATION

OPERATION AND MAINTENANCE

1. Authorization for the purchase of not to exceed one passenger motor vehicle for replacement only

The vehicle for which the Southeastern Power Administration is requesting authority to replace, meets the replacement criteria as to age. The Southeastern Power Administration only operates two passenger motor vehicles which are used by the Administrator, engineers, and other employees engaged in operation and maintenance activities.

Motor vehicles to be purchased:	
Number	1
Gross cost	$1,350
Old vehicles to be exchanged:	
Number	1
Allowance	$300
Net cost	$1,050
Old vehicles still to be used	1

Mr. CANNON. Are there further questions?

Mr. FENTON. Mr. Chairman, I certainly enjoyed the testimony given by Mr. Leavy, the Administrator for the Southeastern Power Administration. It was very forthright. I enjoyed it very much.

Mr. BUDGE. I would like to remark that Mr. Leavy and I were classmates at the University of Idaho Law School.

Mr. JENSEN. I want to join with my colleagues in the kind words that they have said about the gentleman. It is always a pleasure to listen to him.

Mr. CANNON. The committee will stand adjourned until 10 o'clock tomorrow morning when we will take up Members of Congress.

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